

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF TEXAS  
HOUSTON DIVISION**

Mona Abouzied, Individually and on Behalf of  
All Others Similarly Situated,

Plaintiff,

v.

APPLIED OPTOELECTRONICS, INC., CHIH-  
HSIANG (THOMPSON) LIN, and STEFAN J.  
MURRY,

Defendants.

Case No. 4:17-cv-02399

**CLASS ACTION**

**JURY TRIAL DEMANDED**

**FIRST CONSOLIDATED AMENDED CLASS ACTION COMPLAINT  
FOR VIOLATIONS OF THE FEDERAL SECURITIES LAWS**

Court-appointed Lead Plaintiff Lawrence Rougier (“Plaintiff”) brings this action pursuant to Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 (the “Exchange Act”), individually and on behalf of all other persons or entities who purchased or otherwise acquired publicly traded common stock and/or call options of Applied Optoelectronics, Inc. (“AOI,” “Applied Optoelectronics,” or the “Company”) or sold put options of Applied Optoelectronics from February 23, 2017 through February 21, 2018, both dates inclusive (the “Class Period”) and were damaged thereby (the “Class”).

Plaintiff alleges in this First Consolidated Amended Complaint (the “Complaint”) the following based upon personal knowledge as to Plaintiff and Plaintiff’s own acts, and upon information and belief as to all other matters based on the investigation conducted by and through Plaintiff’s undersigned attorneys. This investigation included, among other things, a review and analysis of: (i) AOI’s public filings with the Securities and Exchange Commission (“SEC”); (ii) presentations, press releases, and reports; (iii) transcripts of AOI conference calls with analysts and investors; (iv) securities analysts’ reports and advisories concerning the Company; (v) news and media reports concerning the Company; (vi) interviews of confidential witnesses with personal knowledge of relevant facts; and, (vii) information readily obtainable on the internet.

Plaintiff believes that evidentiary support will exist for the allegations set forth herein after a reasonable opportunity for discovery. Most of the facts supporting the allegations contained herein are known only to the defendants or are exclusively within their control.

## **I. SUMMARY OF THE ACTION**

1. AOI is a manufacturer of optical transceivers, which connect computer servers at massive data centers that communicate to personal computers, mobile phones, and other connected

devices. AOI makes its transceiver components, including lasers to chips, in-house at far-flung factories in Texas, China, and Taiwan.

2. The Company sells nearly all of its products to a small group of technology giants like Facebook, Microsoft, and Amazon, which operate so-called “hyperscale data centers.” Amazon is AOI’s biggest customer, representing 68% of AOI’s revenue from its biggest, data center business segment. These companies’ demand for data technology is insatiable. As consumers’ and businesses’ data consumption has risen, data center customers have demanded faster transceiver technology at lower prices and in greater volumes than ever before.

3. Throughout the Class Period, AOI presented itself as having a significant competitive advantage over other transceiver manufacturers that better positioned it to fulfill growing customer demands. Specifically, Defendants regularly touted the Company as a “vertically integrated” Company that could easily transition from older technology to newer technology because of its ability to manufacture these transceiver components in its own facilities—rather than acquiring major components from other suppliers, allowing AOI to transition seamlessly from slower “40G” transceivers to faster “100G” transceivers. As Defendants stated on February 23, 2017:

***Our ability to internally manufacture lasers and light engines combined with our ability to quickly transition production between 40G and 100G products provides us with cost-leadership advantages, a faster time to market and the ability to quickly scale and adjust our throughput to meet growing demand.***<sup>1</sup>

4. This action arises out of Defendants’ year-long campaign to deceive investors about AOI’s ability to transition its manufacturing to cutting-edge versions of optical transceivers and the future revenue it would get from sales of those transceivers to its largest customer, Amazon.

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<sup>1</sup> Except where otherwise noted, all emphasis in quotations is added.

In fact, the Company's factories never could transition from making older technology to new technology as quickly as Defendants represented. Contrary to Defendants' repeated representations, Amazon had already told AOI, via detailed sales forecasts early on in the Class Period, that it was not going to purchase the large quantities of the product that Defendants had told investors to expect.

5. In May 2017, Defendants—who possessed sales forecasts for its biggest customers' future demands—falsely asserted that its three largest customers' demand would continue unabated, when in fact its biggest customer's forecasts contradicted this assertion. Defendant Murry stated at the time that *“right now, we're using every device that we can make in our internal production, basically. And given the forecast that we see from the customers, I don't see that situation changing. . . .”* Defendants further claimed that they knew what to expect from AOI's customers, responding to analysts, *“[D]o we have good visibility into our customers? And I think the answer is yes.”*

6. The above statements, along with others like it made during the Class Period, were false and Defendants knew it. As Defendants knew from the beginning of the Class Period but concealed from investors, Amazon had decreased its projected sales and AOI was scrambling to remediate pressing operational challenges associated with the transition to 100G technology, which they either downplayed or did not disclose at all to investors.

7. Moreover, Defendants were well aware of—but dismissed out of hand—the growing threat from competitors who had opted against the vertical integration model. Those competitors—including in particular the companies MACOM and Fabrinet—were engaged in what is called the merchant model, whereby they acquired components of transceivers from multiple companies to make their own transceivers for their customers. Defendants said, without

basis, that the merchant model posed no threat to their business.

8. In fact, Defendants already knew, from the detailed sales forecasts Amazon provided to the Company, among other sources, that Amazon's turn to other manufacturers using the merchant model—and away from the Company—was well underway.

9. During an August 3, 2017 earnings call, Defendants would begin to reveal the truth. Specifically, during the August 3 call, Defendants admitted that their supposedly “quick[] transition” from 40G to 100G transceivers was not so “quick” after all. They specified for the first time that “change-over time” on the product lines was six weeks:

***[T]here's about a 6-week time from when we produce a laser to when [it] actually gets shipped out as a transceiver.*** And so the time to actually shift over the production is not long, but the time to – between doing that shift and when you start to see the end product transceivers coming-out is about 6 weeks.

10. At that time, AOI also disclosed that sales from Amazon had sagged significantly, and that Amazon was continuing to buy AOI's 40G transceivers rather than the Company's 100G transceivers. Instead of acknowledging that the decline in Amazon revenue represented the new normal for AOI, Defendants conjured up a false excuse, blaming Amazon for lagging in adapting to the new technology, and reassuring investors that higher sales of 100G transceivers to Amazon would be coming soon. In August 2017, they reiterated that they expected to see “***a resumption of growth from our largest customer***”—Amazon—based on a supposed “***significant amount of committed orders and a good forecast from all 3 of our customers.***” In fact, as would later be revealed, Amazon was sharply cutting *all* of its purchases from AOI because it had turned to new sources for transceivers.

11. An October 12, 2017 earnings announcement further shocked the market when Defendant Murry admitted that—contrary to AOI's persistent representations that Amazon's forecasted demand for 100G was strong—that ***Amazon had lowered its overall demand for both***

**40G and 100G.** Indeed, revenue from Amazon fell from 47% of AOI’s total revenue to a mere 10%. On that news, AOI’s share price plummeted by over 20% to a closing price of \$47.01 on October 13, 2017, on heavy trading volume.

12. In February 2018, the full truth became known when AOI announced that it had actually fallen **behind** in its transition from 40G to 100G due to “customer-specific” issues, i.e. a collapse in Amazon purchases. 40G data center revenue rose from 41% of data center revenues in Q3 to 58% in Q4, while 100G data center revenue—supposedly the future for the Company—fell from 56% to 35%. On this news, AOI’s shares fell \$7.04 from a close of \$34.55 on February 21, 2018 to a close of \$27.51 on February 22, 2018.

13. Defendants knew that their statements about the benefits of the vertical integration model and their representations about the prospects for future sales of 100G transceivers to Amazon were false and misleading. As confidential witnesses have reported, Defendants micromanaged the manufacturing process, which was rife with problems reported up to AOI’s C-Suite. They kept a keen eye on sales through weekly meetings and internal reports from the SAP system, among other sources. Defendants also told investors that they had significant visibility into their customers’ needs, and in fact Amazon repeatedly told Defendants what future volumes of transceivers it would need via periodic forecasts and minimum contractual purchases.

14. With respect to the vertical integration model, confidential witnesses stated that AOI was facing at least two known but undisclosed challenges. First, there were known, undisclosed difficulties in achieving high-quality products in sufficient volumes to satisfy customer demands. Moreover, while AOI repeatedly indicated that its success manufacturing large volumes of 40G transceivers portended immediate success with 100G, in fact the improvements the Company was able to make in its “yield rate” for 40G transceivers—i.e. the factory was able

to produce chips at close to its maximum theoretical production capacity—were hard won, and not replicated with the newer and more challenging 100G technology.

15. There were also known but undisclosed issues with operations and quality control. In its rush to bring products to market, AOI was cutting corners in manufacturing and quality assurance. For example, instead of having a dedicated team of quality assurance inspectors for completed transceivers, the Company relegated that task to research and development engineers, who were overworked and not specifically trained for that responsibility. These sloppy practices led to essential customers, including Amazon receiving faulty test batches of new products.

16. While all of these undisclosed issues put AOI on unsteady footing in an increasingly competitive market, Defendants did not disclose these materialized risks to investors.

17. In spite of all these true facts—delays in transitioning to 100G manufacturing, quality assurance issues, and declining forecasted Amazon demand caused by production problems and “merchant model” competition—Defendants nevertheless continued to paint a false rosy picture of AOI’s vertically integrated manufacturing operations and its expectations for a recovery in sales from Amazon.

18. Defendants Lin and Murry had a clear motive for continuing to misrepresent the state of the Company. They sold shares for significant profits at pivotal points during the Class Period, either with no 10b5-1 trading plan in place, or with 10b5-1 trading plans entered into *during the Class Period*. Defendant Lin generated proceeds of approximately \$729,000 (making a profit of approximately \$642,000) from sales during the Class Period. Defendant Murry generated proceeds of approximately \$630,000 (making a profit of well over \$218,000).

19. As is set forth below, Defendants’ statements and omissions were false and misleading, and caused damage to Plaintiff.

## **II. JURISDICTION AND VENUE**

20. The federal law claims asserted herein arise under and pursuant to Sections 10(b) and 20(a) of the Exchange Act (15 U.S.C. §§ 78j(b) and 78t(a)) and Rule 10b-5 promulgated thereunder by the SEC (17 C.F.R. § 240.10b-5).

21. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331 and Section 27 of the Exchange Act (15 U.S.C. § 78aa.).

22. Venue is proper in this District pursuant to Section 27 of the Exchange Act and 28 U.S.C. § 1391(b) because certain of the acts alleged herein, including the preparation and dissemination of material false and/or misleading information, occurred in this District.

23. In connection with the acts alleged herein, Defendants, directly or indirectly, used the means and instrumentalities of interstate commerce, including but not limited to the mails, interstate telephone communications, and the facilities of a national securities exchange.

## **III. PARTIES**

### **A. Lead Plaintiff**

24. Court-appointed Lead Plaintiff Lawrence Rougier, as set forth in his certification and transactions supporting the motion for consolidation of related actions, appointment as Lead Plaintiff, and for approval of selection counsel, Dkts. 9-2, 9-3 and 9-4, purchased AOI securities at artificially inflated prices during the Class Period and, as a result, was damaged thereby.

### **B. The Corporate Defendant**

25. Defendant Applied Optoelectronics was incorporated in the State of Texas in 1997 and converted to a Delaware corporation in March of 2013. The Company's principal executive offices are located at 13139 Jess Pirtle Blvd., Sugar Land, Texas, 77478. Applied Optoelectronics' common stock trades on the NASDAQ under the ticker symbol "AAOI."



### **C. The Individual Defendants**

26. Defendant Chih-Hsiang (Thompson) Lin (“Lin”) founded Applied Optoelectronics and has been the Company’s President and Chief Executive Officer (“CEO”) since inception. Defendant Lin has also served as AOI Chairman of the Board since January 2014. He has served as Director or Chairman of the Board at all times since 1997. Defendant Lin holds a Bachelor’s degree in Nuclear Engineering from National Tsing Hua University in Taiwan and a Master’s degree and Ph.D. in Electrical and Computer Engineering from the University of Missouri-Columbia.

27. Defendant Stefan J. Murry (“Murry”) has been AOI’s Chief Financial Officer (“CFO”) since August 2014 and the Chief Strategy Officer since December 2012. Defendant Murry has held various positions with the Company since 1997: Vice President of Sales and Marketing from June 2004 to December 2012; Director of Sales and Marketing from January 2000 to June 2004; and, Senior Engineer of Device Packaging from February 1997 to January 2000. Murry has been issued multiple patents in the optoelectronics industry and other related industries. He received his Bachelor’s and Master’s degrees in Physics and a Ph.D. in Electrical Engineering from the University of Houston.

28. Lin and Murry are collectively referred to herein as the “Individual Defendants.” Applied Optoelectronics and the Individual Defendants are collectively referred to herein as the “Defendants.”

29. Each of the Individual Defendants:

- (a) directly participated in the management of the Company;
- (b) was directly involved in the day-to-day operations of the Company at the highest levels;

- (c) was privy to confidential proprietary information concerning the Company and its business and operations;
- (d) was directly or indirectly involved in drafting, producing, reviewing and/or disseminating the false and misleading statements and information alleged herein;
- (e) was directly or indirectly involved in the oversight or implementation of the Company's internal controls;
- (f) was aware of or deliberately recklessly disregarded the fact that the false and misleading statements were being issued concerning the Company; and/or
- (g) approved or ratified these statements in violation of the federal securities laws.

30. Because of the Individual Defendants' positions within the Company, they had access to undisclosed information about AOI's business, operations, operational trends, financial statements, markets and present and future business prospects via access to internal corporate documents (including AOI's operating plans, budgets and forecasts and reports of actual operations and performance), conversations and connections with other corporate officers and employees, attendance at management and Board meetings and committees thereof and via reports and other information provided to them in connection therewith.

31. As officers of a publicly-held company whose securities were, and are, registered with the SEC pursuant to the federal securities laws of the United States, the Individual Defendants each had a duty to disseminate prompt, accurate and truthful information with respect to AOI's financial condition and performance, growth, operations, financial statements, business, markets,

management, earnings and present and future business prospects, and to correct any previously-issued statements that had become materially misleading or untrue, so that the market price of AOI's publicly-traded securities would be based upon truthful and accurate information. The Individual Defendants' misrepresentations and omissions during the Class Period violated these specific requirements and obligations.

32. The Individual Defendants, because of their positions with the Company, possessed the power and authority to control the contents of AOI's reports to the SEC, press releases, and presentations to securities analysts, money and portfolio managers, and institutional investors, *i.e.*, the market. Each Individual Defendant was provided with copies of AOI's reports and press releases alleged herein to be misleading prior to, or shortly after, their issuance and had the ability and opportunity to prevent their issuance or cause them to be corrected. Because of their positions and access to material non-public information available to them, each of these defendants knew that the adverse facts specified herein had not been disclosed to, and were being concealed from, the public, and that the positive representations which were being made were then materially false and/or misleading. The Individual Defendants are liable for the false statements pleaded herein, as those statements were each "group-published" information, the result of the collective actions of the Individual Defendants.

33. Each of the Individual Defendants are liable as a participant in a fraudulent scheme and course of business that operated as a fraud or deceit on purchasers of Applied Optoelectronics Securities by disseminating materially false and misleading statements and/or concealing material adverse facts. The scheme: (i) deceived the investing public regarding AOI's business, operations, management and the intrinsic value of its securities and (ii) caused Plaintiff and other shareholders to purchase AOI securities at artificially inflated prices.

#### **IV. STATEMENT OF FACTS**

##### **A. AOI Relies Heavily on Its Internet Data Centers Business**

34. AOI was founded in 1997 and became a publicly traded company in September 2013. AOI claims to be the leading, vertically-integrated provider of fiber-optic networking products, designing and manufacturing at varying levels of integration, from components, subassemblies and modules, to complete turn-key equipment. AOI states that its vertically integrated manufacturing model provides the Company with advantages in rapid product development, fast response to customer requests, and control over product quality and manufacturing costs.

35. AOI has four primary end-markets: internet data center, cable television (“CATV”), fiber-to-home (“FTTH”), and telecommunications (“telecom”).

36. The CATV market is AOI’s most established market, for which it supplies lasers, transmitters and transceivers, and turn-key equipment to customers such as Cisco Systems, Inc. and Arris Group, Inc.

37. For FTTH, the Company’s newest market, AOI supplies internet service providers with technology for delivering bandwidth to customers’ homes.

38. In the telecom market, AOI’s focus is on supplying optical products designed to transmit signals used in 4G Long Term Evolution (“LTE”), mobile networks.

39. The internet data center market is AOI’s largest and fastest growing market, providing products to large internet-based (“Web 2.0”) data or “hyperscale” center operators.

40. Sales in all four of these end markets are driven by increasing bandwidth demand due to the growth of network-connected devices, video traffic, cloud computing, and online social networking. To supply higher bandwidth, AOI’s customers must improve their network

infrastructure, and more specifically the equipment that transmits the information must be updated to faster speeds.

41. The internet data center end-market is AOI's largest, representing over 77% and 80% of the Company's 2016 and 2017 revenues, respectively.

<b>AOI TOTAL REPORTED REVENUE (in millions)</b>						
<b>Year</b>	<b>CATV</b>	<b>Data center</b>	<b>FTTH</b>	<b>Telecom</b>	<b>Other</b>	<b>Total (\$m)</b>
2014	\$47.4 (36.3%)	\$64.5 (49.4%)	\$13.6 (10.4%)	\$3.9 (3.0%)	\$1.2 (0.9%)	\$130.6
2015	\$53.7 (28.3%)	\$123.3 (64.9%)	\$2.5 (1.3%)	\$9.6 (5.1%)	\$0.8 (0.4%)	\$189.9
2016	\$43.5 (16.7%)	\$201.3 (77.2%)	\$1.6 (0.6%)	\$12.9 (5.0%)	\$1.3 (0.5%)	\$260.6
2017	\$60.8 (15.9%)	\$306.7 (80.2%)	\$0.5 (0.1%)	\$12.9 (3.4%)	\$1.4 (0.4%)	\$382.3

**B. AOI's Data Centers Business Depends Almost Entirely on Sales of Optical Transceivers to Three Internet Giants**

42. Immediately prior to and during the Class Period, AOI's three largest internet data center customers were Amazon, Microsoft, and Facebook. Based on analysts' reports and publicly available information, AOI's revenues from each of those customers was approximately as follows:

<b>Quarter</b>	<b>% revenues</b>		
	<b>Amazon</b>	<b>Microsoft</b>	<b>Facebook</b>
1Q16	52%	25%	N/A
2Q16	42%	32%	N/A
3Q16	56%	19%	N/A
4Q16	63%	>10%	11%
1Q17	56%	>10%	19%
2Q17	47%	9%	37%
3Q17	10%	24%	37%
4Q17	21%	19%	33%

43. The sales to these three customers consist almost entirely of components of fiber optic communication systems called optical transceivers. Fiber optic communication systems consist of (1) an optical transmitter, which converts an electrical signal into an optical signal; (2) a fiber optic cable containing several bundles of optical fibers, through which the optical signal is transmitted; (3) optical amplifiers to boost the power of the optical signal; and (4) an optical receiver that reconverts the received optical signal back to the original transmitted electrical signal.<sup>2</sup> Transmitters and receivers are usually contained within one component called the transceiver. The optical transmitter converts the electrical signal to an optical signal using laser diodes, which are “tiny semiconductor devices (chips).”<sup>3</sup> The receiver “use[s] semiconductor detectors (photodiodes or photodetectors) to convert optical signals to electrical signals.” *Id.*

44. Most of AOI’s transceivers are plugged into switches and computer servers within so-called “hyperscale data centers” which store, process, and communicate massive amounts of data for websites (like Facebook) or for “cloud computing” services (provided by companies including Amazon and Microsoft to other businesses). Data from these centers is then transmitted through network connections to internet service providers, then onto individual digital devices. Data centers have increased in physical size and accelerated their data transmission rates to catch up to consumers’ and businesses’ ever-growing consumption of digital bandwidth. Because the transmission speed of the optical transceiver limits the speed at which a data center can communicate information, data center customers have sought faster, smaller, and more energy-efficient transceivers. While transceivers capable of transmitting data at one gigabit per second

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<sup>2</sup> [http://www.iaeng.org/publication/WCE2014/WCE2014\\_pp438-442.pdf](http://www.iaeng.org/publication/WCE2014/WCE2014_pp438-442.pdf)

<sup>3</sup> <http://www.thefoa.org/tech/ref/appln/transceiver.html>

(“Gbps” or “G”) were cutting-edge in 2013, 40G transceivers had almost completely supplanted both 1G and 10G transceivers by 2015.<sup>4</sup>

45. 100G transceivers entered the market in late 2015, but in limited supply, and demand for 40G devices persisted. Indeed, in 2016, the majority of AOI’s data center sales were for 40G transceivers. However, by the beginning of the Class Period, customers’ attention had turned to newly developed 100G transceivers and highly anticipated 200G and 400G transceivers. AOI asserted during its February 23, 2017 investor conference call that 100G demand in 2017 would exceed 40G demand, the eclipse would be “gradual,” and that “100G will more than make up for” the loss of 40G sales. As discussed below, Defendants knew this was not true because AOI’s vertical integration was not as seamless as claimed, leading to quality issues and the inability to keep up with demand in the face of increased competition in the 100G market.

**C. AOI Touted That It Held a Dominant Technological and Manufacturing Position in Cutting-Edge 100G Optical Transceivers When, In Fact, Due to Capacity Constraints and Product Issues, AOI Was Rapidly Losing 100G Market Share**

46. AOI describes itself as having a vertically integrated manufacturing system. It operates manufacturing facilities in Sugarland, Texas, Ningbo, China (PRC), and Taiwan (ROC). In Texas, AOI manufactures laser chips, subassemblies, and components. The subassemblies are used by the Company’s other facilities in manufacturing components. In Taiwan, AOI manufactures optical components such as the butterfly laser, which incorporates laser chips, subassemblies and components manufactured at the Texas location, as well as the transceivers used by the internet data centers. In China, AOI manufactures the more labor-intensive components and optical equipment systems, such as optical subassemblies. The majority of AOI’s

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<sup>4</sup> A 40G transceiver contains four 10G chips and a 100G transceiver contains four 25G chips.

optical transceivers utilize the Company's own lasers and subassemblies (also known as "light engines").

47. Throughout the Class Period, AOI falsely represented that, due to this vertical integration, it was better equipped than its competitors to satisfy customers' shifting demands from 40G to 100G transceivers. As it stated during a February 23, 2017 (the first day of the Class Period) earnings call:

***Our ability to internally manufacture lasers and light engines combined with our ability to quickly transition production between 40G and 100G products provides us with cost-leadership advantages, a faster time to market and the ability to quickly scale and adjust our throughput to meet growing demand.***

48. During the February 23, 2017 call, Defendant Murry further stated that AOI "expect[ed] to maintain [its] leadership position as [it] continue[d] the transition to 100G" and that "the similarity between 100G and 40G modules really gives us an advantage in terms of being able to ramp that up quickly." Murry also commented that AOI did not see the anticipated decline in 40G sales as "problematic because we can transition our manufacturing from 40G to 100G and it just gives us additional capacity on the 100G product. So I will say also that we don't really expect a sharp decline in 40G."

49. While Defendants publicly represented that AOI could make a seamless transition from one speed of transceiver to another, behind the scenes, the Company had supply chain issues of its own, causing it to have to scramble to accommodate large-scale production of a proliferating array of products for its increasingly demanding customers.

50. Confidential Witness 1 ("CW1") was employed at AOI as an engineer involved with optical module and transceiver development, as well as manufacturing and procurement (i.e., procuring components that AOI did not manufacture itself at volume prices for the transceivers).



CW1 worked for AOI for several years prior to the Class Period, leaving the Company approximately half-way through it. During CW1's employment at AOI, CW1 attended meetings every Wednesday at 4:30 pm Central Time with all R&D managers at AOI's Texas facility, along with various product managers, engineers, senior engineers, and David Chen, a special assistant to Defendant Lin who was also in charge of corporate quality assurance. An Excel file with notes on what was discussed at these meetings, along with any PowerPoint presentations, was kept on the shared network drive accessible by anyone in the R&D department under the projects folder.

51. CW1 stated that at the weekly meetings, a frequent topic of discussion was "yield issues in Taiwan." Each individual chip is tested at each stage of the transceiver assembly process to determine if the device is functioning properly, and the portion that is found to do so is called the "yield." It was difficult to achieve high production yields during the early months of manufacturing a new product. For example, when AOI was having trouble with yields for its 40G transceivers in 2015 or 2016, the Company was compelled to send an engineer from the Houston facility to Taiwan to increase yields to the extraordinarily high rate 90% from an abysmal 40%. But, according to CW1, the process of generating such results takes long periods of sustained effort: "[w]hen you just start a new product, you can't get 90% yield immediately." As is described below, AOI's admitted difficulties transitioning from 25G to 100G transceivers suggest that, during the Class Period, AOI never reached the yields it obtained for 40G chips.

52. CW1 stated that the process of transitioning from manufacturing chips for 40G transceivers to those for 100G transceivers was not a simple one. CW1 explained that to increase the speed of a transceiver, AOI could not merely swap out one chip for another. Rather, it first needed to update the capabilities of the Texas facility where it manufactured transceiver chips. The 100G transceiver requires four 25G chips, while the 40G transceiver requires four 10G chips.

Moreover, once processes were in place to manufacture chips for 100G transceivers, it was no guarantee that yields would increase. Indeed, according to CW1, the higher the speed, the more difficult it is to manufacture the chip.

53. In addition to having difficulties transitioning between manufacturing chips for 40G and 100G transceivers at their Houston facility, AOI also faced additional difficulties producing multiple varieties of 40G and 100G transceivers to satisfy customer demands. According to CW1, by the beginning of the Class Period, there were multiple varieties of each speed of transceiver, such as “PSM4” transceivers (used by Amazon) and “CWDM” transceivers (used by Facebook). For each type of transceiver, there would be further differentiated products, e.g., “100G generation 1,” “100G generation 2,” “100G generation 3,” and so on. The “designs internally [for these varieties] could be a totally different structure.” CW1 stated that AOI’s consistent “[g]oal was to get a cheaper product” that they could sell to Amazon or Facebook at a lower cost, or with a higher margin.

54. Each variety of transceiver also has to be able to work with the structure and existing equipment of the customers. Thus, for many customers, AOI’s products go through a “qualification process.” The qualification process usually involves product sampling and reliability testing and collaboration with the product management and engineering teams in the design and manufacturing states. New customers may also audit the manufacturing facilities and perform other evaluations. AOI customers may cancel or modify a design project before the Company has qualified the product or begun manufacturing a qualified product. A successful qualification is known as a “design win.” AOI defines a “design win” as “the successful completion of the evaluation stage, where our customer has tested our produce, verified that our

product meets substantially all of their requirements and has informed us that they intend to purchase the product from us.”

55. A key way in which AOI purportedly distinguished itself was in the manufacturing of chips. As Defendant Murry described the process in a March 22, 2017 Investor Session:

So, we start with a wafer, a semiconductor material that basically devoid of active layers or active devices on there. Upon that substrate material, which we buy and other companies presumably buy as well, we do some process called epitaxy. That is we're growing additional layers on top of the substrate materials that actually form the laser itself, or in the case of the receiver, a photodiode.

Those layers, essentially, are where all the action is. *We do that in-house and as we mentioned in the video, we're one of relatively small number of companies that actually has the capability in-house to grow these wafers and to do the rest of the laser manufacturing process. And I think that's the key differentiator because as you may hear at the show, lasers not only define the performance [to date extent] of these modules, but they're also critical to on-time delivery schedule and being able to ramp up as customer demand increases, which of course we're seeing in some of the markets that we're in.*

56. Consequently, far from allowing the Company to be nimble in responding to customer demand, the vertical integration model actually stymied AOI's ability to produce transceivers. According to CW1, by the Summer of 2017, the Company was “desperate” to increase the Texas facility's chip production capacity. During the Class Period, the Houston facility had yet to expand their chip coating capacity. The difficulty in switching from one chip to another resulted in delays in manufacturing the necessary volume of chips, which in turn restricted AOI's ability to increase the volume of transceivers assembled in Taiwan.

57. Furthermore, CW1 believed that the coating on the chips contained in the transceivers had reliability issues, which meant that the transceivers sold to large data center customers, including Amazon, were unreliable and prone to failure within several years.

58. Throughout the Class Period, the Individual Defendants were aware of these production capacity gaps at the Texas and Taiwan facilities. According to CW1, every Wednesday

night (Central Time), the R&D managers and the project managers from Houston would conference with teams in Taiwan (and likely China as well) concerning 40G, 100G and other products. A main topic of discussion was the production capacity and yield at the facilities (and thus they discussed problems with yields for optical modules and transceivers at the facilities, along with other production issues and shortfalls). Jun Zheng, the VP of the R&D department in Houston, would attend these meetings and reported on yields to the CEO before earnings reports were issued. Additionally, Defendant Lin received monthly status reports from all R&D managers during the Class Period.

**D. AOI Had Significant Visibility Into Its Customers' Ordering Patterns And They Knew Demand Was Declining with Its Largest Customer**

59. Confidential sources, the Defendants' own public statements, and recently released agreements with customers all demonstrate that AOI and the Individual Defendants had a clear view of customers' upcoming demand for transceivers.

60. Confidential Witness Two ("CW2") was a sales executive at AOI from May until October 2017 for both domestic and international customers purchasing AOI's laser chips. According to CW2, the salespeople's job was to manage customer relationships. CW2 was supervised by a deputy salesperson, who in turn worked under a deputy salesperson named Peter Wang. Wang's manager was Fred Chang, the Senior Vice President and North America General Manager, who reported directly to Defendant Lin. All deputy salespeople reported to Chang. According to CW2, Chang regularly communicated with Defendant Lin about the status of all of AOI's accounts.

61. CW2 stated that at periodic intervals, including before the beginning of each year, AOI's customers were required under supply agreements to provide projections of their

requirements for the coming year. Customers communicated these projections to sales people via telephone calls or emails.

62. CW2 stated that projection data concerning all products sold by AOI was then entered into the SAP system. The SAP data was available companywide to all people at AOI who were authorized to access the account, including the Individual Defendants. CW2 also stated that a file for each customer was maintained by the sales support and accounting teams, containing that customer's supply/purchase contracts, non-disclosure agreements, production changes, purchase orders and invoices. Sales support personnel would notify production managers about the customer's product requirements and their desired timing for delivery.

63. CW2 attended regular weekly meetings with all salespeople in the Texas office, including those working on the Amazon and Facebook accounts. Wang and Chang attended these meetings. At the meetings, salespeople reported sales numbers, and other developments with all of their accounts, including for Amazon, Facebook, and other large data center customers.

64. According to CW1, Defendants took a hands-on approach to monitoring customer demand. CW1 stated AOI was truly a company where what the CEO said goes and that most of the managers were "yes men," adding that the Defendant Lin "rules with fear." CW2 pointed out that the sales and marketing teams were physically located on the third floor of the Houston building along with senior executive offices.

65. Defendants also repeatedly stated throughout the Class Period that—in spite of their disclosures that sales were made pursuant to individual purchase orders and that demand forecasts did not impose a contractual commitment—they knew what their large datacenter customers would be ordering, had committed minimum orders, and received projections from them. For example:

- So there's a couple of questions in there, I guess. The first one is, ***do we have good visibility into our customers? And I think the answer is yes.*** I think we continue to see ourselves and I believe our customers see us as a key partner, as they rollout these new technologies. And so as a key and value partner for them, I think ***they're giving us the best visibility*** that they possibly can into their future needs. So I think we have good very visibility there across all of our major customers, including the new ones. ... but overall the customers are basically purchasing what they led us to expect that they would purchase. And we feel comfortable with their plans for the future in terms of our capacity and our ability to meet their needs. (February 23, 2017 Conference Call, Defendant Murry)
- While ***our customers may provide us with their demand forecasts***, they are typically not contractually committed to buy any quantity of products beyond firm purchase orders.  
(2017 Form 10-K)
- Based on current orders and forecasts from our customers, we believe that 2017 datacenter revenue should grow by more than 85% compared with 2016 and would include contributions from 3 hyperscale datacenter customers, each of whom will represent more than 10% of our annual revenue.  
(May 4, 2017 Conference Call, Defendant Murry)
- As far as our plans for the use of those devices, right now, we're using every device that we can make in our internal production, basically. And ***given the forecast that we see from the customers***, I don't see that situation changing. ...  
(May 4, 2017 Conference Call, Defendant Murry)
- We expect to see strong growth from 2 out of the 3 large datacenter customers that we have and ***a resumption of growth from our largest customer.*** In addition to that -- you asked whether these are committed orders. There are some committed orders out there, not all of that expectation is committed at this point. ***But we do have a significant amount of committed orders and a good forecast from all 3 of our customers.***  
(August 3, 2017 Conference Call, Defendant Murry)
- No. As we've said for years, I mean, the pricing negotiations that we have with our customers are on an ongoing basis and they occur no particularly defined time throughout the year. That is, they occur randomly throughout the year whenever it's appropriate. But ***these price negotiations that we have undergone are something that we do in advance with the customer, and we know what those prices are expected to be on a go forward basis.***  
(August 3, 2017, Defendant Murry)
- Other customers are also reducing their 40 gig. As you would expect, as they transition to 100 gig. We've known about that and we've expected it, as I mentioned on the last answer. So the only surprise this quarter is the extent to which one

customer is decreasing their forecast or the speed at which they're decreasing their forecast for 40G. That's the only unexpected thing that's come about. The rest of it is known.

(August 3, 2017, Defendant Murry)

66. A recently released agreement with Facebook illustrates AOI's contracting practices with its largest datacenter customers and confirms the CWs' descriptions of the forecasting process. Defendant Murry also explained this type of contracting on the February 21, 2018 earnings call: "And I mentioned earlier and in the 8-K that it is a minimum commitment. This is how we operate with some of our other customers as well in the sense that AOI typically gets a share oftentimes a leading share with our customers as sort of a minimum commitment. But oftentimes, depending on what competitors can actually produce and ship in a given quarter, we may have opportunities to take additional share." The Facebook Supply Agreement for 2018 provides for specific minimum purchase commitments and requires that Facebook provide "accurate 6 month rolling forecasts to AOI, identifying . . . needs and delivery expectations on calendar quarter basis." For calendar years 2019 and 2020, Facebook will provide "demand forecasts for the subsequent year. . . in [the] third calendar quarter of the current" calendar year and "the parties will finalize the actual CY 2019 support and purchase commitment by \*\*\*\*\*." Furthermore, "Facebook will purchase the balance of committed demand at the end of each respective quarter at the unit price agreed for the shortfall quarter pursuant to the table in Table 2 [table of negotiated quarterly price for the product for 2018 with exact amounts hidden]." Fred Chang signed the Facebook Supply Agreement and Master Purchase Agreement on behalf of AOI.

67. Based on the publicly available information and information provided by the CWs, it can be inferred that Amazon had a similar agreement. In fact, Defendant Murry stated during the August 3, 2017 earnings call that "we do have a significant amount of committed orders and

a good forecast from all 3 of our [large data center] customers.” Thus, the Individual Defendants knew by the start of the Class Period what Amazon’s purchase commitments were for both 40G and 100G—prior to the actual drops in sales that AOI eventually disclosed.

**E. AOI Knew But Failed to Disclose Problems With Its Corporate Organization and Manufacturing Processes**

68. Despite representing to investors that AOI was uniquely positioned to maintain production of 40G transceivers while transitioning to 100G, insiders reported incidents that shows that AOI’s growth and transition were accompanied by serious issues with corporate operations and manufacturing quality control, which caused customers like Amazon to look elsewhere to fill their demand.

69. As an initial matter, senior executives at AOI were constantly monitoring all aspects of the Company’s operations. According to CW1, many of the managers are “yes men” and “the CEO [Lin] rules with fear,” and “would react pretty big to even the littlest problems,” such that even “small problem would be blown out of proportion.”

70. CW1 stated that senior management knew that the quality control department at the Houston manufacturing facility lacked the skills necessary to conduct quality assurance testing and RMA (return material authorization) troubleshooting for the transceivers sent back from the customers. Consequently, senior management delegated the responsibility of testing transceivers to research and development engineers themselves. Fellow R&D engineers stated to CW1 that they were underequipped to do the job of both their normal work and the quality assurance, which was outside their job description.

71. In addition, AOI’s hyperscale data center customers require that AOI provide for quality assurance testing on large samples of the transceivers that are manufactured in Taiwan. The samples are either manufactured and tested in Taiwan, then sent to the data center customer,



or they are tested in Taiwan, then tested in Houston, then sent to the data center customer. CW1 recalled an incident during the Class Period when AOI's Taiwan facility actually sent a defective set of test transceivers to Amazon, which required high numbers of test devices for their quality assurance process. The customer tested the transceivers, the performance results were unfavorable, and the R&D transceiver group in Houston was reprimanded. According to CW1, "You want to send Amazon your best quality products." But this time, "[s]omething happened resulting in inferior parts being selected and then shipped, or the specs may have drifted out of target due to poor or rushed assembly."

**F. Defendants Had Advance Knowledge of Looming Issues Concerning Future Demand From Its Biggest Customers, But Failed to Disclose the Issues to Investors**

72. While the Company was struggling to meet customer demand while maintaining low margins, AOI knew that its customers were looking elsewhere for 100G transceivers. By May 2017, if not earlier, it was (or should have been) clear to Defendants that large datacenter customers, particularly Amazon, were pursuing alternatives to AOI's optical transceivers, including the so-called "merchant model," i.e., end-users directing the custom assembly of transceivers using parts from a variety of suppliers.

73. A leader in the merchant model of transceiver production is MACOM Technology Solutions Holdings Inc. ("MACOM"), a semiconductor manufacturer that provides large cloud data centers with lasers, silicon photonics, and optical subassemblies. During MACOM's April 25, 2017 earnings call, the company stated: "We're now being sponsored actively pulled by top cloud data center customers to provide various solutions through various customers and channels to fulfill what we expect will be insatiable demand. . . ." On May 16, 2017, at the Cloud Data Center Forum, MACOM discussed the emerging trend of large datacenters purchasing optical

transceiver parts, or the “merchant model” where the datacenter client purchases from MACOM and can direct where the component goes—whether to another manufacturer in the chain of production (like AOI) or directly to the datacenter itself. The optical industry is supply constrained and most of the large datacenters are “professional supply chain managers.” Thus, with the “merchant model” the large datacenters use their supply chain expertise to “evalut[e] and stickhandl[e] technology providers . . .”

74. AOI was clearly aware of this “merchant model” and MACOM’s increasing business with hyperscale data centers, including Amazon. Indeed, Defendant Murry specifically addressed this issue during a May 4, 2017 conference call. During that call, he contended that “economically, [the merchant model] does not make sense” because the layers of complexity and additional profit margins associated with having multiple companies manufacture these datacenter products would not “result[] in a product that’s less expensive for the end customer than buying it from AOI even at the profit margins or gross profit levels that we’re at today.” Defendant Lin added that the companies engaged in the merchant model would have “gross margin[s] [that] will be very low compared to AOI’s” because the gross margin AOI obtained would have to be “divide[d] [] by 3 companies . . . selling laser, doing types of manufacture, selling transceiver or selling chips.”

75. On June 26, 2017, Needham & Co. analyst Alex Henderson reported that Fabrinet had won a project to provide Amazon with 100G CWDM-4 optical modules “based on Macom components,” with production of the 100G multiplexers expected to accelerate in July 2017.<sup>5</sup> More specifically, Amazon partnered with Fabrinet to produce 100G CWDM-4 optical transceivers for itself. Using the merchant model described herein, MACOM’s components are

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<sup>5</sup> <https://www.barrons.com/articles/an-existential-threat-to-fiberoptics-makers-1500695405>;  
<http://www.markets.co/needham-believes-ma-com-technology-nasdaq-ntsi-wont-stop-here/>

being used by Amazon and placed in systems supplied by Fabrinet. Essentially, as a result of, AOI's inability to meet demand due to product quality and other issues, Amazon has been piecing together its own 100G transceivers using components from MACOM and Fabrinet. MACOM's datacenter revenues show the fruits of this alliance, growing 107% year-over-year from the company's quarter-ended December 30, 2016 to December 29, 2017.

76. Nevertheless, on July 13, 2017, AOI issued a press release announcing preliminary second quarter 2017 earnings that did not address the changed competitive landscape or the known expected decline in sales to Amazon. Defendant Lin stated: "I'm pleased to announce that we expect to deliver another record quarter with our top and bottom-line results expected to exceed our guidance" and attributing the results to "improvement[s] in our manufacturing costs, capacity expansion and solid execution by our production team." When comparing this to the Company's previous earnings announcements, notably missing was any forward-looking commentary or any commentary that the business would continue to remain strong.

#### **G. The Truth Begins to Be Revealed**

77. On August 3, 2017, during the Company's second quarter 2017 earnings call, AOI was forced to reveal that "a large datacenter customer"—known to be Amazon—had decreased its demand for the 40G products going into the third quarter of 2017. While AOI contended that the weakening demand was "a recent development" occurring "post [] pre-announcement," according to CW2 and Defendants themselves, the Company had advance knowledge of Amazon's minimum purchase obligations and its forecasted transceiver requirements.

78. Nevertheless, AOI continued to make deceptive statements during the earnings call. It stated that 100G demand with Amazon was on track: "We continue to expect to have 3 hyperscale customers, each represent more than 10% of our revenue for the full year 2017. . . ."

Defendants also stated that “we have meaningful 100 gig revenue with our largest customer as well as our other customers.”

79. AOI dismissed the effects on its business of decreased Amazon demand or the MACOM -Fabrinet partnership. Defendant Murry stated:

. . . [F]irst of all, we don't believe that the MACOM-Fabrinet alliance is actually producing anything or is likely to produce any products or any meaningful quantities, certainly, in the next quarter or 2, probably longer than that. In addition to that, in the long term, and in the short term, we don't see any cost advantage to this model. AOI, as we mentioned, is currently very highly vertical integrated on the most expensive components, meaning the lasers. As we announced in the call, we also intend to produce other optical components that we currently don't produce internally, which will further enhance the extent of our vertical integration, and we think this gives us a significant cost even against the MACOM-Fabrinet business model or any of the other competitive business models that we're aware of.

80. On the news of the dramatic decline in Amazon's demand for 40G transceivers, the Company's share price fell over 34%.

#### **H. Facing the Unpalatable Reality of Permanent Market Changes, AOI Conceals the True Effect of the Drop in Amazon Purchases**

81. During an investor conference on August 15, 2017, Defendants uncharacteristically refused to discuss the Company's relationships with its large data center customers and indicated that AOI expected an increase in “unit” sales, but not an increase in “revenue.”

#### **I. The Truth Is Revealed**

82. Among the many material facts Defendants had been concealing from investors was that Amazon had lowered its demand for *both 40G and 100G*. This reality was revealed in part in the preliminary third quarter 2017 earnings announcement on October 12, 2017. During the conference call after market close that day, Defendant Murry stated that the Company “saw lower demand *overall* from one of our large customers.” On this news, AOI's share price fell over 20%.

83. Defendant Murry revealed that revenue fell short of AOI's previous guidance for the third quarter of 2017 by approximately \$18 million, or 20%, due specifically to lower demand from "a large datacenter customer." While AOI had partially disclosed that this customer, Amazon, would be reducing its purchases of 40G products during the August 3, 2017 earnings call, AOI was now forced to reveal that Amazon was purchasing very little of any type of the Company's products. Revenue from Amazon had in fact dropped from 47% of total revenue during the second quarter of 2017 to *a mere 10%* during the third quarter of 2017.

84. Furthermore, contrary to Defendants' consistent claims throughout the Class Period that they had visibility into future demand through customer forecasts, AOI stated for the first time that there was purportedly "weakness" in its ability to forecast and that "visibility [was] difficult."

85. But, Defendants once again failed to disclose the true reasons behind Amazon's decreasing demand, stating that "we don't believe that this disruption in the order flow is related to anything AOI-specific. It's related to an ongoing transition from 40G to 100G." On the final financial results earnings call on November 7, 2017, Defendant Murry reiterated this false reasoning:

We continue to have ongoing discussions with this customer and based on those conversations, we believe the disruption in order flow is related to the ongoing transition from 40G to 100G and not specific to AOI. We believe there was some inventory build-up during the transition and based on conversations with this customer, we believe that inventory conditions will normalize within the first half of next year.

86. One analyst directly questioned the explanations given for the 100G decrease by Amazon, to which Defendant Murry side-stepped responding to and added in follow-up that "we remain a major supplier to all of our major customers for their long-reach transceiver

needs and intra-datacenter applications. And I'll kind of leave it at that as far as customer positioning":

**Simon Matthew Leopold** - Raymond James & Associates, Inc., Research Division  
- Research Analyst

Great. That's very helpful. Pleased to hear that. The other thing is -- and I'm assuming I've entered formulas correctly, so apology if I botch this. But I think the 100 gig business was down sequentially. So given that the primary explanation is a pause of 40 to 100 gig, I would have imagined you'd sell every piece of 100-gig gear. So maybe help us understand if: one, I did the math correctly; and two, if so, why would 100 gig be down in your third quarter.

**Stefan J. Murry** - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
Well, I think we saw an overall decline -- as we mentioned in our prepared remarks, we saw an overall decline in business from one customer. So that included both 40 gig and 100 gig. On the other hand, the other customers that we had, were actually up for 100 gig, so that didn't quite balance out the overall decline from the one customer.

87. During AOI's fourth quarter 2017 earnings results call on February 21, 2018, the staggering effect of Amazon's 100G purchasing withdrawal was exposed to investors with reported 100G sales dropping from 56% of data center revenues during the third quarter to 35% during the fourth quarter of 2017. When questioned by analysts about the "skew . . . in favor of 40 gig," Defendant Murry admitted "[i]t's largely customer specific." And instead of pointing to the 40G to 100G transition as the reason behind shifting demands, when asked whether there was "any particular seasonality that drives the sequential weakness in the fourth quarter," Defendant Murry responded, "I can't really comment on the specific customers and their trends. But I think, it's not reasonable to expect that, in any given quarter, there can be a lot of things that affect a particular customer's purchasing patterns, timing of orders, specific things that they're doing within their datacenters, what type of products they're deploying to mix."

88. The chart below shows an uptick in 100G transceiver sales compared to 40G transceiver sales as Amazon begins demanding fewer 40G transceivers, and then the shocking

reversal of 100G transceiver sales from the third quarter of 2017 to the fourth quarter of 2017 as Amazon’s demand for all AOI transceivers dwindles.

Quarter	40G % of Datacenter Revenues	100G % of Datacenter Revenues	Total Datacenter Revenues (\$m)
4Q16	74%	20%	\$68.1
1Q17	62%	30%	\$79.6
2Q17	57%	39%	\$99.3
3Q17	41%	56%	\$65.8
4Q17	58%	35%	\$62

89. On this news, AOI’s shares fell \$7.04 from a close of \$34.55 on February 21, 2018 to a close of \$27.51 on February 22, 2018.

## V. DEFENDANTS’ MATERIALLY FALSE AND MISLEADING STATEMENTS

### A. The February 23, 2017 Press Release

90. The Class Period begins on February 23, 2017, when AOI issued a press release announcing its fourth quarter and year-end 2016 results (the “February 2017 Press Release”). The February 2017 Press Release stated in relevant part:

AOI achieved another record year driven by strong demand for our market-leading datacenter products and continued execution by the AOI team. We believe our record performance further demonstrates our growing market share in advanced optics and our team’s ability to generate manufacturing efficiencies that lead to margin improvement,” said Dr. Thompson Lin, Applied Optoelectronics, Inc. founder, president and CEO. ***“Our ability to internally manufacture lasers and light engines provides us with cost-leadership advantages, a faster time to market, and the ability to quickly scale to demand. Looking ahead, as the 100G transition accelerates this year, we see the opportunity to build on our momentum and expand our market leadership.”***

91. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company’s business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, that: (i) AOI lacked the capacity and capability to transition quickly from

40G to 100G manufacturing and, thus, could not keep up with customer demand; (ii) AOI was taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, causing undisclosed product quality issues and resulting decreased demand from Amazon and other key customers; (iii) AOI was losing market share to increasing competition due to customers adopting the “merchant model”; (iv) Defendants knew that, based on customers’ minimum purchase obligations and forecasted requirements, as well as product issues, that demand for AOI’s 100G transceivers was not going to grow at the rate Defendants represented; and (v) as a result of the foregoing, the Company’s financial statements were materially false and misleading.

**B. The February 23, 2017 Earnings Call**

92. On the same day, after market close, the Company held an investor call to discuss the Company’s fourth quarter and full year 2017 financial results (the “February 2017 Call”). Defendant Lin commented on AOI’s competitive position in the 100G market, stating: “***In 100G we further extended the gap between AOI and the competition.*** Building upon our first-to-market advantage, we increased our 25G chip production by nearly 150% between January and December and expanded our customer footprint by earning a new large scale customer.”

93. During the call, Defendant Murry discussed the Company’s transition from the 40G market to the 100G market. He stated:

***[W]e believe we have many new opportunities ahead of us to drive further growth as datacenter operators transition to 100G and continue to expand their datacenters and upgrade their infrastructure to handle higher bandwidth needs.***

Our ability to internally manufacture lasers and light engines combined with our ability to ***quickly transition production between 40G and 100G products*** provides us with cost-leadership advantages, ***a faster time to market and the ability to quickly scale and adjust our throughput to meet growing demand.***

And lastly, the added capacity from our new fab in Sugar Land ***enables us to expand our avenues to market for 100G. For example, as we demonstrated with***



**40G, we were able to expand our share and ramp quickly to the demand of our hyper-scale operators.**

Based on our analysis, we believe we are now the leading supplier of 40G optics for hyper-scale datacenter operators **and expect to maintain our leadership position as we continue the transition to 100G.**

94. Defendant Murry further asserted that what distinguished AOI from its competitors was its ability, as a vertically integrated company, to manufacture all components of a transceiver “to meet the demand.”

And I think when you are in a situation **where supply of some of those components may be constrained, or the overall industry capacity is not what is needed to meet the demand, if the company that has the ability to ramp up quickly by virtue of being integrated in their production like we are that it will do better I think than others.** And honestly I think that that's the situation that we're in right now, and I think we've been able to start to prove out the value of that vertical integration strategy.

95. When asked by analyst Troy Jensen of Piper Jaffray about declines in demand for 40G transceivers, Defendant Murry assured investors that due to the Company's vertical integration model, 100G demand would make up for lost 40G sales:

That decline, really, **we don't expect to be problematic because we can transition our manufacturing from 40G to 100G** and it just gives us additional capacity on the 100G product. So I will say also that we don't really expect a sharp decline in 40G.

I think others have maybe speculated that that decline was going to be swift. I think there's a lot of reasons why customers can't transition completely away from 40G in a short timeframe. **So we expect it will be a gradual decline and that 100G will more than make up for that.**

96. Defendant Murry also lauded the Company's ability to easily and quickly move from production of 40G products to 100G products:

I think we can't emphasize enough that the light engines, the manufacturing of the subassembly that includes the lasers and the rest of the optical components - - **having our own in-house capability to do that and having a significant manufacturing infrastructure for that by virtue of the similarity between 100G and 40G modules really gives us an advantage in terms of being able to ramp that up quickly.**

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*Well, basically we're using the capacity that we have as we put it online.* I think there's two ways of looking at it. There's capacity in terms of current equipment and manpower and we're constantly adding to that capacity. And so that's kind of a moving target. I think the bigger picture is that we spent, as you know, we spent heavily last year on new building infrastructure, particularly here in Sugar Land but also in our overseas operations as well.

*And that gives us an ability to have the physical infrastructure to put new equipment in to be able to continue that ramp. So on both those counts, I think we've been able to keep up with our customers' demand and actually I think we've been able to gain some incremental advantage over competitors who maybe didn't have that sort of latent capacity available to help customers when they saw a surge in demand.*

97. Defendant Murry also commented on the data center demand and revenues for AOI:

Moving now to Q1. We expect Q1 revenue to be between \$87 million and \$91 million, representing 73% to 80% year-over-year growth. As we mentioned last quarter, we have fewer production days in Q1 as a result of the Chinese New Year holiday. *However, strong customer demand for datacenter and solid execution by the AOI team will drive higher sequential datacenter revenue.*

98. In response to Cowen analyst Paul Silverstein's question on "how much visibility"

the Company had with its customers on the 100G ramp, Defendant Murry responded:

So there's a couple of questions in there, I guess. The first one is, do we have good visibility into our customers? *And I think the answer is yes. I think we continue to see ourselves and I believe our customers see us as a key partner, as they rollout these new technologies.*

And so as a key and value partner for them, I think they're giving us the best visibility that they possibly can into their future needs. *So I think we have good very visibility there across all of our major customers, including the new ones.*

The other question that you had was related to what Troy was asking about too in terms of the 100G ramp up. *What I could say is we're tracking as expected on the 100G. I think there's always hiccups in the plan from time to time, but overall the customers are basically purchasing what they led us to expect that they would purchase. And we feel comfortable with their plans for the future in terms of our capacity and our ability to meet their needs.*

99. Both analysts and investors responded to this favorable outlook. AOI's stock price rose from a close of \$37.47 per share on February 23, 2017 to a close of \$45.98 per share on heavy

trading volume of over 6.5 million. Northland Securities reported that the Company was “well ahead of our \$75M estimates with expectation for 100G to account for all of that growth with slight declines in 40G.” Roth Capital Partners stated on February 24, 2017:

We believe management made a very strong case as to how its business is fundamentally different from many other optical networking suppliers. In most other cases, a significant portion of optical revenues are driven by telecommunications service provider CAPX spending cycles. In AOI's case, however, it has essentially zero exposure to this inherently cyclical market. Instead, AOI generates over 80% of sales from datacenter networking, which has fundamentally different demand drivers in that the final customers are continuously reliant on driving to the lowest cost per performance in order to support their own growing businesses.

100. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) as soon effectively admitted to by Defendant Murry on May 4, 2017, they lacked the capacity to transition quickly from 40G to 100G manufacturing (“growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing”); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon during the first half of 2017; (iii) they were losing market leadership to increasing competition due to customers adopting the “merchant model”; (iv) they knew that, based on customers' minimum purchase obligations and forecasted requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning

of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

**C. The 2016 Form 10-K Filed March 9, 2017**

101. On March 9, 2017, AOI filed its Annual Report on Form 10-K with the SEC for the year-ended December 31, 2016 (the "2016 Form 10-K"), which was signed by Defendants Lin and Murry.

102. The 2016 Form 10-K contained similar statements to those from the February 2017 Call regarding the benefits of the Company's vertical integration, customer visibility and the 100G transition.

103. Specifically, the 2016 Form 10-K listed "[v]ertically integrated, geographically distributed manufacturing model" as a "key competitive strength[]." It also stated that the Company "expect[ed] continued sales of our 40 Gbps and 100 Gbps products in 2017, and...expect[ed] that sales of 100 Gbps products [would] eventually exceed sales of 40 Gbps products."

104. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) as soon effectively admitted to by Defendant Murry on May 4, 2017, they lacked the capacity to transition quickly from 40G to 100G manufacturing ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing"); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers

being sent to Amazon during the first half of 2017; (iii) they were losing market leadership to increasing competition due to customers adopting the “merchant model”; (iv) they knew that, based on customers’ minimum purchase obligations and forecasted requirements, that demand for AOI’s 100G transceivers was not going to grow at the rate Defendants represented because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company’s financial statements were materially false and misleading.

#### **D. The March 22, 2017 Investor Session**

105. On March 22, 2017, Defendant Murry participated in an investor session at the Optical Fiber Communication Conference and Exhibition (“OFC”) (the “March 2017 Investor Conference”) where he spoke at length about the benefits of AOI’s vertically integrated manufacturing. With respect to AOI’s supposed advantage as a transceiver manufacturer that made its own chips in-house, he stated,

So, we start with a wafer, a semiconductor material that basically devoid of active layers or active devices on there. Upon that substrate material, which we buy and other companies presumably buy as well, we do some process called epitaxy. That is we're growing additional layers on top of the substrate materials that actually form the laser itself, or in the case of the receiver, a photodiode.

Those layers, essentially, are where all the action is. *We do that in-house and as we mentioned in the video, we're one of relatively small number of companies that actually has the capability in-house to grow these wafers and to do the rest of the laser manufacturing process. And I think that's the key differentiator because as you may hear at the show, lasers not only define the performance [to date extent] of these modules, but they're also critical to on-time delivery schedule and being able to ramp up as customer demand increases, which of course we're seeing in some of the markets that we're in.*

106. He further stated,

*So what does vertical integration do for us? Faster time to market, because we don't have to rely on a very long supply chain of different suppliers that all have to align in terms of schedules, we can do most of that in-house.* So, we tend to be

faster time to market, perhaps more than -- in time to market, I should say, what we're really talking about here is time to volume.

That is there maybe companies out there that can deliver a small quantity of transceivers in a very short time, but what really matters to our customers is how fast can we get them the volumes that they need within their applications. So in the data center, it's not about making the first few samples or the first 100 units, it's about how fast can you really scale the business. And I think vertical integration gives us a big advantage in terms of time to scale.

\*\*\*\*

So one of the themes that AOI has promulgated throughout the years, especially in our data center business is we like to keep a great deal of commonality in terms of the way that products are designed and manufactured from one generation of products to another. *That gives us the ability to flexibly shift from -- for example in the data center world from 40 gigabits per second to 100 gigabits per second without having through radically change our production process or invest in massive amounts of new equipment or whatever. And we can also change back and forth flexibly as customer demand changes, again a very important aspect of vertical integration particularly to our customers.*

And finally rapid response to the customer and market demand, so as we see these shifts and changes in the marketplace, the one thing I can say about the optical industry is that it's a very fast moving market. There's a lot of shifts and demand from time to time and as we bring our new customers, those demands change as well because not every customer needs exactly the same type of product. So, the ability to flexibly change or adapt to the customer demand I think is also key part of that vertical integration strategy.

107. Defendant Murry stated that the Company was ready for the increasing demand from data centers and that customers had relayed their demands for the year:

We do see a lot of pull from customers to add capacity. Fortunately, we made a lot of investments last year and the year before that allow us to have -- at least AOI to have the ability to add that capacity relatively quickly and I think we're getting a pretty strong customer response, a positive customer response based on our -- the plans that we've disclosed to them about how we plan to meet their upcoming increasing demand.

Some facts last year, we increased our production of data center transceiver products last year by about 70% from Q1 to Q4, but we didn't increase our headcount at all. And one of the things that we did last year was we spent a lot of money -- and actually the year before, but we spent a lot of money and time doing process automation, being able to do more of the production that we do in an automated fashion. That is much easier to scale than manual -- more manual

processes, and so that investment along with the investment that we made in the fab, really gives us the ability to scale our production pretty rapidly and we think *we're doing a reasonably good job of anticipating and meeting the demands of the customers have told us that they're going to need for this year and next year.*

108. Based on Defendant Murry's presentation, Roth Capital Partners reported that the "unit opportunity per datacenter is incredibly large" and that "there remains a strong premium over 40G and margins are inherently stronger for 100G solutions."

109. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) as soon effectively admitted to by Defendant Murry on May 4, 2017, they lacked the capacity to transition quickly from 40G to 100G manufacturing ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing"); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon during the first half of 2017; (iii) they were losing market leadership to increasing competition due to customers adopting the "merchant model"; (iv) they knew that, based on customers' minimum purchase obligations and forecasted requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

### **E. The May 4, 2017 Press Release**

110. On May 4, 2017, AOI issued a press release announcing the Company's first quarter 2017 financial results (the "May 2017 Press Release"). In this press release, the Company reported "record performance" with Defendant Lin stating: "We are very pleased with the team's continued execution. Our *commitment to technology innovation, manufacturing excellence and customer satisfaction are qualities that continue to set AOI apart*, and we believe our performance in the quarter further demonstrates our commitment to excellence in these areas."

111. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) as effectively admitted to by Defendant Murry on the earnings call the same day, they lacked the capacity to transition quickly from 40G to 100G manufacturing ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing"); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon during the first half of 2017; (iii) they were losing market leadership to increasing competition due to customers adopting the "merchant model," as specifically discussed at length by merchant model competitor MACOM in April of 2017; (iv) they knew that, based on customers' minimum purchase obligations and forecasted requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the



beginning of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

**F. The May 4, 2017 Earnings Call**

112. The Company also held the first quarter 2017 investor earnings call on May 4, 2017 after market close (the "May 2017 Call"). During this call, the Defendants vehemently denied any competition issues due to benefits of their vertical integration model and continued to tout AOI's relationship and visibility with Amazon and their other data center customers.

113. Despite the fact that MACOM was gaining 100G market share and working with Amazon on a "merchant model", both Defendant Lin and Defendant Murry dismissed any and all suggestions that competition was or could affect the Company. In response to Cowen analyst Paul Silverstein's question "[w]hy should The Street not be concerned given that there certainly appears to be concern that you're going to be displaced to one extent or another, especially in the 100-gig arena," Defendant Murry stated:

Paul, well, that's a good question to start off with. So think first of all, as we said all along, ***the most important factor for our success with these customers has been our ability to scale rapidly to meet their needs and to have a very low cost structure that allows us to get high gross margin while still meeting their pricing expectations.*** We believe relative to any other technology out there that we maintain a significant differential in terms of cost, that is that we're the lowest-cost technology out there by a fairly wide margin. And this is particularly true when it comes to the CWDM products. As we mentioned in the prepared remarks, the CWDM products make up the majority. As a percentage of the overall revenue, it's more than doubled since last year. And that's because these datacenters are getting larger. And as a consequence of the larger size of the datacenters, there's more emphasis from these customers on the CWDM products which, for us, are more highly differentiated and carry a higher gross margin. So all the trends that we're seeing, I think, are very positive for our technology. And even on the relatively smaller PSM products, ***we still maintain that we have a significant edge in terms of cost, mainly due to our vertical integration and the amount of attention that we've paid to the manufacturing process, the automation that we put in place and the other factors that we've talked about a number of times that have really differentiated our manufacturing processes.***

114. Analyst Silverstein pushed the question, asking directly about the Company's largest customers:

**Paul Jonas Silverstein** - Cowen and Company, LLC, Research Division - MD and Senior Research Analyst

All right. And guys, just to be clear, my last question on this. As of now, you don't see -- you don't foresee, *you don't anticipate being intercepted in a meaningful way at any of Amazon, Microsoft or Facebook. There's nothing you're aware of at this point that will cause you concern that there's a share shift to one or more other competitors?*

**Stefan J. Murry** - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
*That's correct.*

115. Simon Matthew Leopold with Raymond James & Associates, Inc. directly questioned the Defendants regarding MACOM's "merchant model":

**Simon Matthew Leopold** - Raymond James & Associates, Inc., Research Division - Research Analyst

So that actually nicely sets up my next question, is we've sort of heard this bear case of companies that would sell merchant elements. They would sell lasers and semiconductors to other manufacturers or to contract manufacturers that could then compete with you. So I guess one side of the bear case about your company is that there are other competitors taking share. The other side is this sort of unidentified competitor that would buy merchant elements. Can you help us understand the potential for that as a competitive threat? Hopefully that makes sense, and I can be more explicit if you want.

**Stefan J. Murry** - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
No, I understand what you're getting at. *So we have a great deal of vertical integration, as we've talked about ever since we went public. We do a lot of these things in house.* We make our own lasers, we build our own light engines, we do our own production, *we do our own testings, okay? There are companies out there that have talked about sort of disaggregating that, if you will, and one company will grow the laser chip, somebody else will do the assembly, somebody else will do the test, somebody makes the chips, et cetera, et cetera, okay. Relative to our business model – I mean, this has been the big advantage of our business model.* And I will point out to you, at this point, we've got a 5-plus year track record in the datacenter industry of high -- highly successful business, as evidenced by this quarter and our previous -- really, going back 4, 5 years, you can look at our results. The vertically integrated business model, we believe, is the best way to economically manufacture these datacenter products. *And there are competitors out there that are talking about doing different business models. But economically, that just doesn't make sense.* If you have to add multiple companies' profit margins in there

along with all the vagaries of the manufacturing that is yields and things that change over time and inventory management, we've done the modeling and there's just no way that, that results in a product that's less expensive for the end customer than buying it from AOI even at the profit margins or gross profit levels that we're at today. So yes, it's possible to do it that way potentially, but it doesn't result in a lower-cost product.

...

***And all of that assumes that they would be as good as AOI is at all of those operations, which we don't think is possible given the fact that we are the demonstrated leader in this industry.***

116. Defendant Murry also responded “yes” when asked if he felt like AOI was “the market share leader in the 100-gig web-scale transceivers.”

117. Additionally, Defendant Murry also stressed the Company’s knowledge of its customers’ wants and needs and AOI ability to deliver on the 100G demand. Furthermore, although he acknowledged the challenge of ramping up manufacturing capacity, he assured investors that AOI was at an advantage compared to its competitors in doing so:

***Based on current orders and forecasts from our customers***, we believe that 2017 datacenter revenue should grow by more than 85% compared with 2016 and would include contributions from 3 hyperscale datacenter customers, each of whom will represent more than 10% of our annual revenue.

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So when you talk about for AOI, will 40G be higher in 2017 compared to 2016, the answer is probably yes. However, I would caution that, that doesn't necessarily mean that that's the same thing for the industry, right, because we added a significant new customer for 40G during the year. Overall, I would say in general terms, while I can't speak to the specifics of the industry, I think it's widely acknowledged and most people would agree that 100 gig is growing. ***We were first to market with 100-gig products, first to volume with those products and we believe we're the cost leader on those products. So I think we're going to be very successful in both 100G and 40G throughout the year.***

118. Defendant Lin also commented on the Company’s ability to compete in the 100G realm specifically, stating in relevant part:

*I want to emphasize in the 100G (inaudible), this is much tougher to design and manufacture (inaudible) than PSM4. So there are much less competitors. And for us, AOI has much stronger cost advantage (inaudible).* So that's why we have updated the long-term model in last quarter earnings call. And we believe that's what we can maintain even for the long-term, or even higher.

119. Defendants also suggested that constraints on sales to customers were driven purely by manufacturing capacity issues, without acknowledging sagging market demand for 40G transceivers, a lack of demand from Amazon for AOI's 100G transceivers.

Brian Matthew Alger - Roth Capital Partners, LLC, Research Division - Head of Technology Research and Senior Research Analyst

Obviously, there's been a fair amount of hand-wringing over the past couple of weeks. I'm wondering where we are in terms of that crossover and what your expectations are as we go through the year. Clearly 100 gig is ramping, but given your customer mix, are you still anticipating that you'll lag the industry in terms of your crossover point?

Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
Brian, when you talk about crossover point, what exactly are you referring to?

Brian Matthew Alger - Roth Capital Partners, LLC, Research Division - Head of Technology Research and Senior Research Analyst

Sorry. 100 gig versus 40 gig. And I'm talking revenues relative to units.

Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
So you're asking, when do we expect the 100-gig revenue will overtake 40 gig revenue? I mean, if you're asking that, we don't really disclose that on a forward-looking basis. We think that obviously 100 gig is growing. 40 gig for us is also very strong. It was -- we were actually -- we had another record quarter in 40-gig sales as well. It was pretty much flat over last quarter, but it was up ever so slightly. So we're expecting a good year both in 40 gig and 100 gig. But as far as when that crossover happens, we don't really talk about that.

\*\*\*\*

Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
Right now, we're basically shipping everything we can manufacture. ***So the growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing.*** So we talked just a moment ago with Troy, he mentioned some of the figures that we had projected in terms of laser sales. I think that you can draw some conclusions from there. But there's a limit to how fast we can

increase our production capacity. So that's really the limiting factor to the growth rate.

120. Once again, both the market and analysts believed the positive message relayed by Defendants and AOI's stock price rose \$9.15 from a closing price of \$46.81 on May 4, 2017 to a closing price of \$55.96 per share on May 5, 2017 on heavy trading volume of 10.8 million. Piper Jaffray reported that it "continue[s] to believe AAOI remains in prime position to see impressive growth in 2017 as demand for 100G optics accelerates." Roth Capital Partners raised their numbers "directly in the face of skeptics' claims of increasing competition" and "believe AOI is deeply undervalued." The Cowen & Co. analyst specifically noted that "AAOI's ability to vertically integrate and manufacture virtually all the components of its 100G optical light-engines should continue to fuel AAOI's ability to drive GM progression ahead of price declines."

121. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) they lacked the capacity to transition quickly from 40G to 100G manufacturing, as effectively admitted to, but not made clear, by Defendant Murry during this call when he stated "the growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing"; (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon during the first half of 2017; (iii) they were losing market leadership to increasing competition due to customers adopting the "merchant model," as specifically discussed at length by merchant model competitor MACOM in April of 2017; (iv) they knew that, based on customers' minimum purchase obligations and forecasted

requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

#### **G. The July 13, 2017 Press Release**

122. On July 13, 2017, before market open, AOI issued a press release, entitled "Applied Optoelectronics Expects Second Quarter 2017 Results to Exceed Guidance," announcing the Company's expected financial results for the second quarter of 2017 ending June 30, 2017 (the "July 2017 Press Release"). The July 2017 Press Release stated that

**"I'm pleased to announce that *we expect to deliver another record quarter with our top and bottom-line results expected to exceed our guidance,*"** said Dr. Thompson Lin, Applied Optoelectronics, Inc. founder, president and CEO. **"Again *this quarter, our results were driven by improvement in our manufacturing costs, capacity expansion and solid execution by our production team.* We are pleased with our performance and look forward to sharing the additional details of our second quarter results on our conference call in August."**

123. This positive pre-announcement lead to heavy trading volumes of over 8 million on July 13, 2017 and increase in AOI's share price of \$5.40 to a closing price of \$78.04 per share. Piper Jaffray recognized the Company's "impressive quarter with revenue upside and record margin levels that have never been seen before in the optical component industry" and believed "Applied [had] exceptional visibility through the remainder of 2017...." Roth Capital Partners noted that the press release "didn't provide much detail as to where the specific strength came from, however we assume most of the upside came from datacenter, which continues to see tremendous potential for the company."

124. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) they lacked the capacity to transition quickly from 40G to 100G manufacturing, as effectively admitted to by the Defendants on the May 2017 Call ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing") and soon after on August 3, 2017 ("the time to actually shift over the production is...about 6 weeks."); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon prior to this statement; (iii) they were losing market leadership to increasing competition due to customers adopting the "merchant model," as discussed by merchant model competitor beginning in April of 2017 and resulting in the publicly announced transceiver building alliance between Amazon, Fabrinet and MACOM on June 26, 2017; (iv) they knew that, based on customers' minimum purchase obligations and forecasted requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented, because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

**VI. THE TRUTH EMERGES THROUGH PARTIAL DISCLOSURES WHILE DEFENDANTS CONTINUE TO ISSUE FALSE ASSURANCES**

**A. The August 3, 2017 Press Release**

125. On August 3, 2017, AOI issued a press release after market hours announcing the final financial results for the second quarter of 2017 ending June 30, 2017 (the “August 2017 Press Release”). The press release was attached as Exhibit 99.1 to AOI’s Form 8-K filed on August 3, 2017. The August 2017 Press Release revealed that one of the Company’s large data center customers was reducing its 40G product orders, stating, in relevant part:

“AOI achieved another record performance driven by strong demand for our market-leading datacenter products and continued improvement in our manufacturing costs and capacity expansion,” said Dr. Thompson Lin, Applied Optoelectronics, Inc. founder, president and CEO. “Our record gross margin and earnings demonstrate the strength of our business model and deep manufacturing know-how. We believe our ability to leverage our vertical integration and proprietary manufacturing processes to drive greater efficiencies and shorten our production cycle times sets AOI apart from others in the industry.”

Lin continued, “We are pleased with our team’s continued solid execution in the quarter, which marked our ninth consecutive quarter of generating record datacenter revenue. **However, as we look into the third quarter, we see softer than expected demand for our 40G solutions with one of our large customers that will offset the sequential growth and increased demand we expect in 100G.** We believe AOI has a leading position in the advanced optics market and we continue to expand within our existing customer base as well as engage with new customers for 100G technologies and beyond.”

**B. The August 3, 2017 Earnings Call**

126. Defendants also hosted an earnings conference call on August 3, 2017 after market close reporting the financial results for the second quarter 2017 ending June 30, 2017 (the “August 2017 Call”). During the call, Defendant Murry reiterated the weakening 40G demand, stating:

*As we look into Q3, we see softer than expected demand for our 40G solutions with one of our large datacenter customers that will offset the*



*sequential growth and increased demand we expect to see in 100G. This slowdown in 40G demand has been anticipated for some time, but the decline in Q3 is greater than previously expected.*

Emphasis added.

127. Murry claimed that Amazon's decreasing demand for 40G products was a "surprise" and stressed that the Company had only recently found out about it:

**Brian Matthew Alger - Roth Capital Partners, LLC, Research Division - Head of Technology Research & Senior Research Analyst**

Right. Well, it seems as you clearly have a pretty good handle on what's going on with 100G and next generation type of designs with your customers. I'm curious as to how -- you seem to have been caught off-guard in terms of the decline on 40 gig. Is that something that transferred from your customer recently? Or is that something that was communicated in the middle of the quarter?

**Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer**

*It's a recent development.* And again, it's not that we didn't expect 40 gig to decline with this customer or the other customers, we knew it would. It's just coming a little bit faster which, in the end, means a faster transition to 100 gig, which is not a bad thing. But obviously, in this particular quarter, it's happened faster than we expected.

**Brian Matthew Alger - Roth Capital Partners, LLC, Research Division - Head of Technology Research & Senior Research Analyst**

Understand. I think we all expect the transition to occur and we all think it's a positive, certainly for you guys, given your product portfolio. I guess where I'm going with this is, it's a bit unusual for a company to preannounce a very strong beat and then to have something like this come in a couple of weeks later from that announcement. And I'm just -- it seems as though maybe you guys were informed of this after your positive pre-announcement.

**Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer**

That is true, but just to be clear, the pre-announcement is made when we see the results of the quarter differing materially from the last guidance that we put out with The Street. That's why we preannounce. It's not an indication of future, it's an indication that the past has been very different from what we last guided The Street. In other words, we don't want -- when we know that there is different information from what we've previously guided for, we want to get that information in the hands of investors as

quickly as possible. That's what investors have asked us to do and that's what we think is the right thing to do. But that's not necessarily an indication of any particular thing about the future. ***In this case, the information that we got about the 40 gig actually did happen post the pre-announcement,*** but that wouldn't necessarily change our thinking about whether or not to preannounce.

128. Defendants revealed for the first time that "change-over time" on the product lines was six weeks: "[T]here's about a 6-week time from when we produce a laser to when [it] actually gets shipped out as a transceiver. And so the time to actually shift over the production is not long, but the time to – between doing that shift and when you start to see the end product transceivers coming-out is about 6 weeks."

129. When questioned by analysts about Amazon's 100G demand, Defendant Murry assured investors that AOI had ***"meaningful 100 gig revenue with our largest customer as well as our other customers. . . . [W]e do have meaningful – meaningful 100 gig sales with all 3 of our large datacenter customers."***

130. Defendant Murry also stated that the Company had set prices (and sometimes price reductions) with customers: "But these price negotiations that we have undergone are something we do in advance with the customer, and ***we know what those prices are expected to be on a go forward basis."***

131. Defendant Murry assured investors that sequential improvement would be seen again in December 2017 and when asked how he could be so confident stated that ***"some committed orders [are] out there, not all of that expectation is committed at this point. But we do have a significant amount of committed orders and a good forecast from all 3 of our customers."***

132. Once again, the Defendants denied any competitive pressure from the MACOM - Fabrinet alliance, touting the Company's vertical integration model as a core advantage over competitors. Defendant Murry responded:

*So first of all, we don't believe that the MACOM-Fabrinet alliance is actually producing anything or is likely to produce any products or any meaningful quantities, certainly, in the next quarter or 2, probably longer than that. In addition to that, in the long term, and in the short term, we don't see any cost advantage to this model. AOI, as we mentioned, is currently very highly vertical integrated on the most expensive components, meaning the lasers. As we announced in the call, we also intend to produce other optical components that we currently don't produce internally, which will further enhance the extent of our vertical integration, and we think this gives us a significant cost even against the MACOM-Fabrinet business model or any of the other competitive business models that we're aware of.*

133. On this news, AOI's share price fell by \$33.39 per share or over 34% from its previous closing price to close at \$64.60 per share on August 4, 2017, damaging investors. But, the Company had convinced at least a few analysts of its false assurances, Cowen & Co. stated: "As evidenced by disappointing 3Q17 revenue outlook, 40G transceiver roll-over presents near-term risk. But we see the larger story as ongoing strong growth in data center transceiver demand with AAOI maintaining strong position at key DC customers and expanding into new DC customers and strong ongoing margins. We have increased our EPS forecasts."

134. Despite disclosure of weakening demand for AOI's 40G product with one of its major customers, the August 3, 2017 earnings release continued to contain false and misleading representations and omissions, failing to disclose the magnitude of its demand loss with Amazon, the issues AOI was facing with 100G products and vertical integration, the magnitude of the market share with Amazon that MACOM -Fabrinet had taken from AOI, and leading investors to believe that the demand would be continuing for the 100G products.

135. Consequently, the statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to AOI's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) they lacked the capacity to transition quickly from 40G to 100G manufacturing, as effectively admitted to by the Defendants on the May 2017 Call ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing") and on this August 2017 Call ("the time to actually shift over the production is...about 6 weeks."); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon prior to this statement; (iii) they were losing market leadership to increasing competition due to customers adopting the "merchant model," as discussed by merchant model competitor beginning in April of 2017 and resulting in the publicly announced transceiver building alliance between Amazon, Fabrinet and MACOM on June 26, 2017; (iv) they knew that, based on customers' minimum purchase obligations and forecasted requirements, that demand for AOI's 100G transceivers was not going to grow at the rate Defendants represented, because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company's financial statements were materially false and misleading.

### **C. The October 12, 2017 Press Release and Earnings Call**

136. On October 12, 2017, AOI issued a press release after market hours announcing its preliminary financial results for the third quarter of 2017 ending September 30, 2017 (the "October Press Release"). The press release was attached as Exhibit 99.1 to the Company's Form

8-K filed on October 12, 2017, and revealed further details of the weakened demand from Amazon.

***“Our preliminary results for the third quarter fell short of prior estimates and were negatively impacted by lower than expected sales to one of our large datacenter customers.*** Despite this shortfall, we maintained a strong gross margin profile in the quarter, and continued to experience solid demand with our other top datacenter customers,” said Dr. Thompson Lin, Applied Optoelectronics, Inc. founder, president and CEO. “Although we are disappointed with these preliminary results, we continue to feel good about our leadership position in advanced optics and remain optimistic based on the customer traction we are seeing with our 100G products, especially our 100G CWDM transceivers.”

137. On the same day after market close, AOI held a conference call to discuss its preliminary results for the third quarter ended September 30, 2017 (the “October 2017 Call”). During the October 2017 Call, the Defendants revealed that Amazon’s weakening demand was not only for 40G products, but also 100G products. Defendant Murry stated, in relevant part:

We are disappointed with our third quarter performance. We indicated last quarter that we expected to see softer 40G demand. ***However, we saw lower demand overall from one of our large customers. Revenue from this customer in the quarter was approximately 10% of total revenue compared with 47% last quarter. As a reminder, we have a vendor-owned inventory management model that we employ with this customer which can impact our revenue visibility.*** As previously discussed, this VOI program allows the customer to pull inventory from a hub that AOI manages, and revenue is recorded at the time the inventory is pulled. We continue to have ongoing discussions with this customer and based on our conversations, we believe that the disruption in order flow is related to the ongoing transition from 40G to 100G and not specific to AOI. We also do not expect the inventory stock in our VOI hub to be impaired because forecasts indicate that this inventory will be consumed over time.

138. On this news, AOI’s share price fell by \$11.83 per share or over 20% from its previous closing price to close at \$47.01 per share on October 13, 2017, causing damages to investors.

139. But, once again Defendants continued to issue false and misleading representations and omissions, failing to disclose the real reasons behind Amazon’s weakening demand and its magnitude, instead stating that it was not an AOI issue. When questioned about losing 100G market share with Amazon, Defendant Murry stated: “Yes, *we don't believe that this disruption in the order flow is related to anything AOI-specific. It's related to an ongoing transition from 40G to 100G.*” And when questioned as to what drove his confidence in that fact, he replied: “As we mentioned, we continue to have ongoing discussions with this customer and our other customers as well, and those discussions have led us to believe that *this is a – not – an event that's not specific to AOI.*”

140. And once again, the Company was able to falsely assure at least some of the analysts. For example, Piper Jaffray stated: “This rapid decline caught us off guard, but we continue to believe AAOI is well positioned in the 100G market and anticipate significantly better execution for the company in 2018 as the 100G datacom cycle continues to evolve.” In sharp contrast, Beating Wall Street reported: “The collapse of AMZN from a major customer in the third quarter has been one of the primary concerns we have had with AAOI. We continue to believe AAOI will have a difficult time in recovering lost revenue from AMZN at the 100G level because there are several competitors AMZN already uses for 100G, not just AAOI. We are not changing our tune. This is only the beginning of the challenges AAOI could face in coming quarters.”

141. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to AOI’s business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that:

(i) they lacked the capacity to transition quickly from 40G to 100G manufacturing as effectively admitted to by the Defendants on the May 2017 Call (“growth rate is not dependent on demand. It’s dependent on our ability to continue to ramp our manufacturing”) and on the August 2017 Call (“the time to actually shift over the production is...about 6 weeks.”); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields, lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon prior to this statement; (iii) they were losing market leadership to increasing competition due to customers adopting the “merchant model,” as discussed by merchant model competitor beginning in April of 2017 and resulting in the publicly announced transceiver building alliance between Amazon, Fabrinet and MACOM on June 26, 2017; (iv) they knew that, based on customers’ minimum purchase obligations and forecasted requirements, that demand for AOI’s 100G transceivers was not going to grow at the rate Defendants represented, because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company’s financial statements were materially false and misleading.

#### **D. The November 7, 2017 Press Release and Earnings Call**

142. On November 7, 2017, AOI issued a press release announcing its third quarter 2017 results (the “November 2017 Press Release”). The November 2017 Press Release confirmed the October 2017 revelation about Amazon’s weakening demand, but continued to omit the reasons:

***“While our third quarter results were negatively impacted by lower demand from a large customer, we continued to experience solid demand from our other large datacenter customers, especially for our 100G CWDM transceivers, and revenue for our CATV products reached a new record,”*** said Dr. Thompson Lin, Applied Optoelectronics, Inc. founder, president and CEO. ***“We remain confident in our leadership position in advanced optics. We are working diligently to diversify our customer base and are encouraged with the customer response so far, which led to nine design wins in the quarter, including three for our 100G products. We also***

***continue to make progress on developing new innovative products and expanding our vertical integration to further extend the gap between AOI and the competition.”***

143. On the same day after market close, AOI held a conference call to discuss its final earnings results for the third quarter ended September 30, 2017 (the “November 2017 Call”). During the November 2017 Call, the Company reiterated the tremendous \$46.2 million loss of Amazon revenue compared to second quarter 2017, but continued to falsely claim the reason was “not specific to AOI.”

144. Specifically, Defendant Murry stated:

As discussed on our pre-announcement call, we saw lower demand overall from one of our large customers. And our revenue visibility in the quarter was impacted by the vendor-owned inventory management model that we employ with this customer. As previously discussed, this VOI program allows the customer to pull inventory from a hub that AOI manages, and revenue is recorded at the time the inventory is pulled. This arrangement can make revenue prediction difficult, but it allows us to maximize sales by ensuring that AOI products are available for customers when needed. For example, AOI has, in the past, been able to meet unexpected demand surges because we had available inventory in the hub for our customer to purchase with little to no lead time. ***We continue to have ongoing discussions with this customer and based on those conversations, we believe the disruption in order flow is related to the ongoing transition from 40G to 100G and not specific to AOI. We believe there was some inventory buildup during the transition and based on conversations with this customer, we believe that inventory conditions will normalize within the first half of next year.***

145. Defendant Murry once again stressed AOI’s ability to adapt to transitioning markets:

We believe that one of the strengths of our business model is our ability to flexibly adjust manufacturing to adapt to changing customer requirements, while maintaining industry-leading gross margin. As you know, we serve a customer base that is composed of some of the most dynamic, rapidly evolving companies in the world. As their needs change, we think our ability to adapt along with them gives us a long-term sustainable advantage.



146. While the sales of 100G products represented an all-time high 56% of datacenter revenues for AOI for the quarter, one analyst noted that 100G sales were actually down sequentially:

The other thing is -- and I'm assuming I've entered formulas correctly, so apology if I botch this. But I think the 100 gig business was down sequentially. So given that the primary explanation is a pause of 40 to 100 gig, I would have imagined you'd sell every piece of 100-gig gear. So maybe help us understand if: one, I did the math correctly; and two, if so, why would 100 gig be down in your third quarter.

Stefan J. Murry - Applied Optoelectronics, Inc. - CFO and Chief Strategy Officer  
Well, I think we saw an overall decline -- as we mentioned in our prepared remarks, we saw an overall decline in business from one customer. So that included both 40 gig and 100 gig. *On the other hand, the other customers that we had, were actually up for 100 gig, so that didn't quite balance out the overall decline from the one customer.*

147. With AOI's false reassurances, its stock price once again rose by \$5.75 per share over its closing price of \$37.89 on November 7, 2017. And again, some analysts appeared to believe the false misrepresentations as well, with Northland Securities stating that "[d]espite the top line reduction...our estimates continue to imply a very solid ramp for estimated 100G revs in Q4. . . ."

148. The statements above were materially false and/or misleading because they misrepresented and failed to disclose the following adverse facts pertaining to the Company's business, operations, and prospects, which were known to Defendants or recklessly disregarded by them. Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) they lacked the capacity to transition quickly from 40G to 100G manufacturing as effectively admitted to by the Defendants on the May 2017 Call ("growth rate is not dependent on demand. It's dependent on our ability to continue to ramp our manufacturing") and on the August 2017 Call ("the time to actually shift over the production is...about 6 weeks."); (ii) they were taking shortcuts in manufacturing and quality assurance to increase manufacturing yields,

lower costs, and maintain high gross margins, as identified by CW1 and resulting in faulty transceivers being sent to Amazon prior to this statement; (iii) they were losing market leadership to increasing competition due to customers adopting the “merchant model,” as discussed by merchant model competitor beginning in April of 2017 and resulting in the publicly announced transceiver building alliance between Amazon, Fabrinet and MACOM on June 26, 2017; (iv) they knew that, based on customers’ minimum purchase obligations and forecasted requirements, that demand for AOI’s 100G transceivers was not going to grow at the rate Defendants represented, because Amazon had committed order amounts and gave purchase forecasts to AOI prior to the beginning of the Class Period; and (v) as a result of the foregoing, the Company’s financial statements were materially false and misleading.

#### **E. The February 21, 2018 Press Release and Conference Call**

149. On February 21, 2018, AOI issued a press release reporting its fourth quarter and year-end 2017 financial results (the “February 2018 Press Release”). This press release revealed the full financial impact of Amazon’s weakening demand.

***“We achieved revenue in the fourth quarter of \$79.9 million, which was slightly below our expectations*** due to lower demand from our datacenter customers as they continue to evolve their network architectures. While our revenue came in slightly below expectations, I am pleased with our ability to continue to generate strong gross margin even in a price sensitive market,” said Dr. Thompson Lin, Applied Optoelectronics Inc. founder and CEO. “Even though we see inventory headwinds with one of our customers and the typical seasonality in Q1 due to fewer production days in China because of the Lunar New Year, we continue to expect the second half of 2018 to be stronger than the first half. We believe we have a strong leadership position in advanced optics, and this belief is bolstered by a large purchase commitment that we disclosed earlier today.”

150. On the same day after market close, AOI held a conference call to discuss its fourth quarter and year-end 2017 financial results (the “February 2018 Call”). During this call, the

Defendants revealed the full extent of Amazon's lack of 100G demand. Defendant Murry stated, in relevant part:

Our datacenter revenue was \$62 million, compared with \$68.1 million in Q4 of last year. In the quarter, ***35% of our datacenter revenue was derived from our 100G datacenter products and 58% was from our 40G products.***

151. Additionally, when asked about the reasons as to why there was weakness in the quarter, instead of the false assurance that it was due to the 40G to 100G transition, Defendant Murry instead responded:

Yes, I can't really comment on the specific customers and their trends. But I think, it's not reasonable to expect that, in any given quarter, there can be a lot of things that affect a particular customer's purchasing patterns, timing of orders, specific things that they're doing within their datacenters, what type of products they're deploying to mix. So there's a lot of things that can affect that on a short-term basis. But longer-term, I think, we've seen strong growth from our hyperscale customers and we would expect to do continue to see their volume growth in the future.

152. On this news, AOI share price fell by \$7.04 per share or over 20% from its previous closing price to close at \$27.51 per share on February 22, 2018, causing damage to investors. Craig-Hallum immediately downgraded the Company to sell from hold and slashed its price target from \$32 to \$17, reporting "[w]e do not have clear signs that AMZN will improve dramatically in the near term...." Piper Jaffray, Needham & Co., Northland Capital Markets, and B. Riley FBR also cut their price targets. Piper Jaffray called the "drop in 100G...alarming as Datacom business should be transitioning from 40G to 100G, not the other way around." Beating Wall Street reacted strongly to AOI's final disclosures, deciding to drop coverage of the Company altogether.

153. As a result of Defendants' wrongful acts and omissions, and the precipitous decline in the market value of the Company's securities, Plaintiff and other Class members have suffered significant losses and damages.

## **VII. ADDITIONAL FACTS PROBATIVE OF SCIENTER**

### **A. AOI's Data Center Business Is Its Most Important**

154. Defendants have repeatedly underscored the data center market as AOI's most important and the primary driver of the Company's revenues:

- a. "Our revenue growth in the quarter was driven by continued strong demand for our market-leading datacenter products...." Defendant Lin, February 2017 Call.
- b. "Demand for our market-leading datacenter products continued to drive our exciting result this quarter." Defendant Lin, May 2017 Call.
- c. "Total revenue for the first quarter grew 91% year-over-year to reach another record \$96.2 million. This was primarily driven by continued demand for our market-leading datacenter products." Defendant Murry, May 2017 Call.
- d. "Our results were driven by strong demand for our datacenter products...." Defendant Lin, August 2017 Call.

155. The Company and the Individual Defendants also specifically recognized Amazon's major contribution and importance to their data center market and revenues, breaking out the percentage of revenue attributed to Amazon each quarter and stating, for example: "So, when we look at our heavy concentration to Amazon, that certainly goes a long way towards explaining why we're so heavily concentrated there. They are just much larger than most of the other data center operators."

156. As stated numerous times throughout the Class Period and reiterated in the 2016 Form 10-K, the Defendants had visibility into its customers' demand:

Our sales model focuses on direct engagement and close coordination with our customers to determine product design, qualifications, performance and price. . . . Throughout our sales cycle, we work closely with our customers to qualify our products into their product lines. As a result, we strive to build strategic and long-lasting customer relationships and deliver products that are customized to our customers' requirements.

157. Furthermore, during the Class Period, the Individual Defendants were AOI's most senior executives with direct control and supervision over its business, operations, and public statements. By virtue of their executive positions, the Individual Defendants knew non-public material facts concerning AOI's data center customers, which was the Company's core business.

**B. Defendants Were Aware of Amazon's Declining Demand Through Projections Reported in the SAP System**

158. The Individual Defendants had access to SAP, the company-wide enterprise resource planning program that includes customer relationship management tools that track customer forecasts and purchases. As described above, Company salespeople entered into the SAP system the annual, periodic, and updated forecasts provided by AOI's main customers, which informed AOI of the type and volume of transceivers the customers would require in the future. By reviewing this data and reports generated from this data, the Individual Defendants knew or recklessly disregarded the fact that the forecasts and actual purchases made by Amazon for 100G transceivers fell far short of what Defendants had been priming investors to expect in the next quarter.

**C. Defendants Were Aware of the Production Issues Plaguing the 100G Transceivers Through Weekly Meetings Discussing "Yields" and Other Key Metrics**

159. Defendant Lin was fully aware of any production issues with the optical transceivers, and the component laser chips. According to CW1, Defendant Lin received monthly reports directly from all of the R&D managers. Additionally, the notes from the weekly meetings

held at the Texas office between the R&D managers, product managers, senior engineers and David Chen (the special assistant to Defendant Lin in charge of corporate quality assurance) were available on the shared network drive and accessible by the Defendants.

160. All R&D managers and project managers from the Texas facility also conferenced with the teams in Taiwan, and likely China, once a week as well. At these meetings, according to the CWs, there were discussions about production capacity, yields for the optical modules and transceivers, production issues and shortfalls. The VP of R&D department in Texas attended these meetings and reported on yields directly to Defendant Lin prior to the issuance of earnings reports.

#### **D. Insider Stock Sales**

161. Defendants were motivated to engage in the alleged fraudulent scheme and issue materially false and misleading statements and/or omit material facts in order to inflate AOI's securities price and maximize individual profits through insider trading.

162. As reflected in the chart below, Defendant Murry sold 11,498 shares of Applied Optoelectronics stock over the course of the Class Period for proceeds of \$630,468.77.

<b>Date</b>	<b>Shares Sold</b>	<b>Proceeds</b>	<b>10b5-1 Plan</b>
3/13/2017	334	\$17,018.64	No
3/13/2017	666	\$33,935.36	No
5/18/2017	3,168	\$201,185.11	No
8/17/2017	3,050	\$214,138.06	Yes (Entered into 5/31/2017)
12/18/2017	3,000	\$117,510.00	Yes (Entered into 11/15/2017)
1/16/2018	1,280	\$46,681.60	Yes (Entered into 11/15/2017)
<b>TOTAL</b>	<b>11,498</b>	<b>\$630,468.77</b>	

163. As reflected in the chart, these sales were either not traded pursuant to a Rule 10b5-1 trading plan, or traded pursuant to plans entered into at suspicious times *during the Class Period*.

164. Defendant Lin also profited from his sales during the Class Period, garnering proceeds of over \$729,000 (making a profit of approximately \$642,000).

Date	Shares Sold	Proceeds	10b5-1 Plan
5/11/2017	8,586	\$566,676.00	No
11/16/2017	1,300	\$58,890.00	No
11/20/2017	2,300	\$103,960.00	No
<b>TOTAL</b>	<b>12,186</b>	<b>\$729,526.00</b>	

165. Furthermore, the timing of these sales was suspicious with a large portion of the stock being sold prior to the first partial disclosure on August 3, 2017, and each Individual Defendants' largest sale occurring shortly after the positive first quarter 2017 earnings announcement (neither according to a Rule 10b5-1 trading plan). The Defendants' other main sales occurred after the market had absorbed the second partial disclosure on October 12, 2017, but well before the Defendants' final revelations on February 21, 2018.

## **VIII. LOSS CAUSATION**

166. During the Class Period, as detailed herein, Defendants engaged in a scheme to deceive the market and a course of conduct that artificially inflated the Company's stock price during the Class Period, and operated as a fraud or deceit on acquirers of the Company's securities.

167. As detailed above, when the truth about AOI's manufacturing problems and customer demand was revealed, the value of the Company's securities declined precipitously as

the prior artificial inflation no longer propped up its stock price. The decline in AOI's share price was a direct result of the nature and extent of Defendants' fraud finally being revealed to investors and the market. The timing and magnitude of the securities' price decline negates any inference that the loss suffered by Plaintiff and other members of the Class was caused by changed market conditions, macroeconomic or industry factors or Company-specific facts unrelated to the Defendants' fraudulent conduct. The economic loss, i.e., damages, suffered by Plaintiff and other Class members was a direct result of Defendants' fraudulent scheme to artificially inflate the Company's stock price and the subsequent significant decline in the value of the Company's share, price when Defendants' prior misrepresentations and other fraudulent conduct was revealed.

168. The artificial inflation created by Defendants' misrepresentations and omissions was removed through a series of partial corrective disclosures by Defendant starting with their announcement on August 3, 2017 that one of their largest data center customers Amazon would be decreasing its demand for the Company's 40 Gbps products. The market was surprised by this disclosure and reacted swiftly. AOI's stock price declined 34% from a close of \$97.99 per share on August 3, 2017, to close at \$64.60 per share on August 4, 2017, on heavier than usual trading volume of more than 17 million shares.

169. This disclosure, however, failed to fully reveal Defendants' misrepresentations and omissions concerning the Company's manufacturing capacity and customer demand. Defendants continued to mislead investors by stating that Amazon would only be decreasing its demand of 40G products, that they had only recently been informed of this decision by Amazon and that there were still "meaningful 100 gig sales with all 3 of [their] largest datacenter customers."

170. On October 12, 2017, the risks concealed by Defendants' materially false and misleading statements and omissions further materialized with the Company's preliminary



financial results for the third quarter of 2017 ending September 30, 2017, when AOI revealed that Amazon's demand had dropped to a mere 10% of the Company's revenues, that Amazon's demand for both 40G and 100G products had decreased, and that despite previous claims otherwise, the vendor warehouse model did not allow AOI to accurately predict revenues from the customer. Following this news, AOI's stock price dropped from a closing price of \$58.84 on October 12, 2017, to a closing price of \$47.01 on October 13, 2017, over 20%, on heavier than normal trading volume of almost 8.7 million shares.

171. Again, this disclosure, failed to fully reveal Defendants' misrepresentations and omissions concerning the Company's manufacturing capacity and customer demand. Defendants continued to mislead investors by stating "we don't believe that this disruption in the order flow is related to anything AOI-specific. It's related to an ongoing transition from 40G to 100G."

172. Finally, on February 21, 2018, the full extent of Defendants' false and misleading statements and omissions materialized with Defendants revelation that it had fallen behind in its transition from 40G to 100G due to "customer-specific" issues, with 100G data center revenues decreasing from 56% of those revenues during the third quarter of 2017 to 35% during the fourth quarter of 2017. On this news, AOI's stock price fell over 20% from a closing price of \$34.55 on February 21, 2018 to a closing price of \$27.51 on February 22, 2018.

173. At all relevant times, Defendants' materially false and misleading statements or omissions alleged herein directly or proximately caused the damages suffered by the Plaintiff and other Class members. Those statements were materially false and misleading through their failure to disclose a true and accurate picture of AOI's manufacturing capacity and customer demand, as alleged herein. Throughout the Class Period, Defendants publicly issued materially false and misleading statements and omitted material facts necessary to make Defendants' statements not

false or misleading, causing AOI's securities to be artificially inflated. Plaintiff and other Class members purchased AOI's securities at those artificially inflated prices, causing them to suffer the damages complained of herein.

**I. PRESUMPTION OF RELIANCE; FRAUD-ON-THE-MARKET**

174. At all relevant times, the market for Applied Optoelectronics Securities was an efficient market for the following reasons, among others:

- (a) AOI Securities met the requirements for listing, and were listed and actively traded on the NASDAQ, a highly efficient market;
- (b) During the Class Period, AOI Securities were actively traded, demonstrating a strong presumption of an efficient market;
- (c) As a regulated issuer, AOI filed with the SEC periodic public reports during the Class Period;
- (d) AOI regularly communicated with public investors via established market communication mechanisms;
- (e) AOI was followed by securities analysts employed by major brokerage firms who wrote reports that were distributed to the sales force and certain customers of brokerage firms during the Class Period. Each of these reports was publicly available and entered the public marketplace; and
- (f) Unexpected material news about AOI was rapidly reflected in and incorporated into the Company's stock price during the Class Period.

175. As a result of the foregoing, the market for AOI Securities promptly digested current information regarding AOI from all publicly available sources and reflected such information in AOI's stock price. Under these circumstances, all purchasers of Applied

Optoelectronics Securities during the Class Period suffered similar injury through their purchase of AOI's Securities at artificially inflated prices, and a presumption of reliance applies.

176. Alternatively, reliance need not be proven in this action because the action involves omissions and deficient disclosures. Positive proof of reliance is not a prerequisite to recovery pursuant to ruling of the United States Supreme Court in *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128 (1972). All that is necessary is that the facts withheld be material in the sense that a reasonable investor might have considered the omitted information important in deciding whether to buy or sell the subject security. Here, the facts withheld are material because an investor would have considered the Company's financials and adequacy of internal controls over financial reporting when deciding whether to purchase and/or sell stock in AOI.

## **II. INAPPLICABILITY OF THE STATUTORY SAFE HARBOR AND BESPEAKS CAUTION DOCTRINE**

177. The statutory safe harbor provided for forward-looking statements under certain circumstances does not apply to any of the false and misleading statements alleged in this Complaint. The statements alleged to be false and misleading herein all relate to then-existing facts and conditions.

178. To the extent certain of the statements alleged to be misleading or inaccurate may be characterized as forward looking, they were not identified as "forward-looking statements" when made and there were no meaningful cautionary language identifying important factors that could cause actual results to differ materially from those in the purportedly forward-looking statements.

179. To the extent certain that the statutory safe harbor is determined to apply to any forward-looking statements pleaded herein, Defendants are also liable for those false or misleading "forward-looking statements" pleaded because, at the time each "forward-looking

statement” was made, the speaker had actual knowledge that the “forward-looking statement” was false or misleading and/or the “forward-looking statement” was authorized and/or approved by an executive officer of AOI who knew that the “forward-looking statement” was false when made. Alternatively, none of the historic or present-tense statements made by the defendants were assumptions underlying or relating to any plan, projection, or statement of future economic performance, as they were not stated to be such assumptions underlying or relating to any projection or statement of future economic performance when made, nor were any of the projections or forecasts made by the defendants expressly related to or stated to be dependent on those historic or present-tense statements when made.

### **III. CLASS ACTION ALLEGATIONS**

180. Plaintiff brings this action as a class action pursuant to Federal Rules of Civil Procedure 23(a) and (b)(3) on behalf of a Class, consisting of all individuals and entities who purchased or otherwise acquired Applied Optoelectronics Securities on the public market during the Class Period, and were damaged, excluding the Company and its subsidiaries and affiliates, any their respective officers and directors at all relevant times, the Individual Defendants and each of their immediate family members, legal representatives, heirs, successors or assigns, and any entity in which any of the Defendants have or had a controlling interest (the “Class”).

181. The members of the Class are so numerous that joinder of all members is impracticable. Throughout the Class Period, AOI securities were actively traded on the NASDAQ. While the exact number of Class members is unknown to Plaintiff at this time and can be ascertained only through appropriate discovery, Plaintiff believes that there are hundreds or thousands of members in the proposed Class. Record owners and other members of the Class may be identified from records maintained by AOI or its transfer agent and may be notified of the

pendency of this action by mail, using the form of notice similar to that customarily used in securities class actions. Upon information and belief, these shares are held by thousands if not millions of individuals located geographically throughout the country and possibly the world. Joinder would be highly impracticable.

182. Plaintiff's claims are typical of the claims of the members of the Class as all members of the Class are similarly affected by the Defendants' respective wrongful conduct in violation of the federal laws complained of herein.

183. Plaintiff will fairly and adequately protect the interests of the members of the Class and has retained counsel competent and experienced in class and securities litigation. Plaintiff has no interests antagonistic to or in conflict with those of the Class.

184. Common questions of law and fact exist as to all members of the Class and predominate over any questions solely affecting individual members of the Class. Among the questions of law and fact common to the Class are:

- (a) whether the federal securities laws were violated by the defendants' respective acts as alleged herein;
- (b) whether statements made by the Defendants to the investing public during the Class Period misrepresented material facts, or omitted material facts necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading;
- (c) whether the defendants acted knowingly or with deliberate recklessness in issuing false and misleading statements and/or omissions;
- (d) whether the price of AOI securities during the Class Period was artificially inflated because of the defendants' conduct complained of herein; and

(e) whether the members of the Class have sustained damages and, if so, what is the proper measure of damages.

185. A class action is superior to all other available methods for the fair and efficient adjudication of this controversy since joinder of all members is impracticable. Furthermore, as the damages suffered by individual Class members may be relatively small, the expense and burden of individual litigation make it impossible for members of the Class to individually redress the wrongs done to them. There will be no difficulty in the management of this action as a class action.

#### **IV. CLAIMS FOR RELIEF**

##### **COUNT I**

##### **Violation of Section 10(b) and Rule 10b-5 Against All Defendants**

186. Plaintiff repeats and realleges each and every allegation contained above as if fully set forth herein.

187. During the Class Period, Defendants carried out a plan, scheme and course of conduct which was intended to and, throughout the Class Period, did: (1) deceive the investing public, including Plaintiff and other Class members, as alleged herein; and (2) cause Plaintiff and other members of the Class to purchase Applied Optoelectronics Securities at artificially inflated prices. In furtherance of this unlawful scheme, plan and course of conduct, each of the Defendants took the actions set forth herein.

188. Defendants: (a) employed devices, schemes, and artifices to defraud; (b) made untrue statements of material fact and/or omitted to state material facts necessary to make the statements not misleading; and (c) engaged in acts, practices, and a course of business that operated as a fraud and deceit upon the purchasers of the Company's Securities in an effort to maintain artificially high market prices for AOI securities in violation of Section 10(b) of the

Exchange Act and Rule 10b-5 promulgated thereunder. All Defendants are sued either as primary participants in the wrongful and illegal conduct charged herein or as controlling persons as alleged below.

189. Defendants, individually and in concert, directly and indirectly, by the use, means or instrumentalities of interstate commerce and/or of the mails, engaged and participated in a continuous course of conduct to conceal adverse material information about the business, operations and future prospects of AOI as specified herein.

190. These Defendants employed devices, schemes, and artifices to defraud while in possession of material adverse non-public information, and engaged in acts, practices, and a course of conduct as alleged herein in an effort to assure investors of AOI's value and performance and continued substantial growth, which included the making of, or participation in the making of, untrue statements of material facts and omitting to state material facts necessary in order to make the statements made about AOI and its business operations and future prospects in the light of the circumstances under which they were made, not misleading, as set forth more particularly herein, and engaged in transactions, practices and a course of business that operated as a fraud and deceit upon the purchasers of Applied Optoelectronics Securities during the Class Period.

191. Individual Defendants' primary liability, and controlling person liability, arises from the following facts: (1) Individual Defendants were high-level executives, directors, and/or agents at the Company during the Class Period and members of the Company's management team or had control thereof; (2) each Individual Defendant, by virtue of his responsibilities and activities as a senior officer and/or director of the Company, was privy to and participated in the creation, development and reporting of the Company's financial condition; (3) each Individual

Defendant enjoyed significant personal contact and familiarity with the other Individual Defendant and was advised of and had access to other members of the Company's management team, internal reports and other data and information about the Company's finances, operations, and sales at all relevant times; and (4) each Individual Defendant was aware of the Company's dissemination of information to the investing public which they knew or recklessly disregarded was materially false and misleading.

192. Defendants had actual knowledge of the misrepresentations and omissions of material facts set forth herein, or acted with reckless disregard for the truth in that they failed to ascertain and to disclose such facts, even though such facts were available to them. Such Defendants' material misrepresentations and/or omissions were done knowingly or recklessly and for the purpose and effect of concealing AOI's operating condition and future business prospects from the investing public and supporting the artificially inflated price of its securities. As demonstrated by Defendants' overstatements and misstatements of the Company's financial condition throughout the Class Period, Defendants, if they did not have actual knowledge of the misrepresentations and omissions alleged, were reckless in failing to obtain such knowledge by deliberately refraining from taking those steps necessary to discover whether those statements were false or misleading.

193. As a result of the dissemination of the materially false and misleading information and failure to disclose material facts, as set forth above, the market price of AOI's securities was artificially inflated during the Class Period. In ignorance of the fact that market prices of AOI's publicly-traded securities were artificially inflated, and relying directly or indirectly on the false and misleading statements made by Defendants, or upon the integrity of the market in which the Securities trades, and/or on the absence of material adverse information that was known to or



recklessly disregarded by Defendants but not disclosed in public statements by Defendants during the Class Period, Plaintiff and the other members of the Class acquired Applied Optoelectronics' Securities during the Class Period at artificially high prices and were or will be damaged thereby.

194. At the time of said misrepresentations and omissions, Plaintiff and other members of the Class were ignorant of their falsity, and believed them to be true. Had Plaintiff and the other members of the Class and the marketplace known the truth regarding AOI's financial results, which was not disclosed by Defendants, Plaintiff and other members of the Class would not have purchased or otherwise acquired their AOI's securities, or, if they had acquired such securities during the Class Period, they would not have done so at the artificially inflated prices that they paid.

195. By virtue of the foregoing, Defendants have violated Section 10(b) of the Exchange Act, and Rule 10b-5 promulgated thereunder.

196. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and the other members of the Class suffered damages in connection with their respective purchases and sales of the Company's Securities during the Class Period.

197. This action was filed within two years of discovery of the fraud and within five years of each plaintiff's purchases of Securities giving rise to the cause of action.

## **COUNT II**

### ***The Individual Defendants Violated Section 20(a) of the Exchange Act***

198. Plaintiff repeats and realleges each and every allegation contained above as if fully set forth herein.

199. The Individual Defendants acted as controlling persons of AOI within the meaning of Section 20(a) of the Exchange Act as alleged herein. By virtue of their high-level positions, agency, ownership and contractual rights, and participation in and/or awareness of the Company's

operations and/or intimate knowledge of the false financial statements filed by the Company with the SEC and disseminated to the investing public, the Individual Defendants had the power to influence and control, and did influence and control, directly or indirectly, the decision-making of the Company, including the content and dissemination of the various statements that Plaintiff contends are false and misleading. The Individual Defendants provided with or had unlimited access to copies of the Company's reports, press releases, public filings and other statements alleged by Plaintiff to have been misleading prior to and/or shortly after these statements were issued and had the ability to prevent the issuance of the statements or to cause the statements to be corrected.

200. In particular, each of these Defendants had direct and supervisory involvement in the day-to-day operations of the Company and, therefore, is presumed to have had the power to control or influence the particular transactions giving rise to the securities violations as alleged herein, and exercised the same.

201. As set forth above, AOI, the Individual Defendants each violated Section 10(b), and Rule 10b-5 promulgated thereunder, by their acts and omissions as alleged in this Complaint.

202. By virtue of their positions as controlling persons, the Individual Defendants are liable pursuant to Section 20(a) of the Exchange Act. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and other members of the Class suffered damages in connection with their purchases of the Company's Securities during the Class Period.

203. This action was filed within two years of discovery of the fraud and within five years of each Plaintiff's purchases of Securities giving rise to the cause of action.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for relief and judgment as follows:

- (a) Determining that this action is a proper class action, certifying Plaintiff as class representative under Federal Rule of Civil Procedure 23 and Plaintiff's counsel as class counsel;
- (b) Awarding compensatory damages in favor of Plaintiff and the other members of the Class against all Defendants, jointly and severally, for all damages sustained as a result of the defendants' wrongdoing, in an amount to be proven at trial, including interest thereon;
- (c) Awarding Plaintiff and the Class their reasonable costs and expenses incurred in this action, including counsel fees and expert fees;
- (d) Granting extraordinary equitable and/or injunctive relief as permitted by law; and
- (e) Such other and further relief as the Court may deem just and proper.

**JURY TRIAL DEMANDED**

Plaintiff hereby demands a jury trial.

Dated: March 5, 2018

/s/ Jamie J. McKey  
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